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MORE COMPREHENSIVE FIELD METHODS¹

By MARGARET MEAD

THE history of ethnographic field work has been also the history of widening definition of which departments of human life are to be regarded as culture, which are to be classified, and which ignored, under the heading of "psychology" or "private life." In the traditional monograph it is still regarded as adequate to dismiss "family relations" with a paragraph and "child training" with a page. Accidents of early choice have also determined which questions all good ethnographers ask; for example, a monograph would be condemned which betrayed the fact that the ethnographer has failed to find out whether there was circumcision or what disposition was made of the umbilical cord. But a complete ignorance of the way in which a child is weaned or the position in which a child is held while being suckled, although just as culturally standardized and possibly far more significant in the life of the child, may be omitted with a clear ethnographic conscience. Emphases such as these are purely accidental, having no essential relevance to the line drawn between those fields which are essentially the province of the ethnographer and those which are not. It is, however, advisable to scrutinize critically such fashions in field work and point out how inconsistent and disjointed present standards of inquiry are.

One turns, however, from these merely fortuitous omissions which any traditional ethnographer will admit as nevertheless appropriate for study, to a more elaborate problem, the problem of how unformalized aspects of culture are to be studied. Traditionally, puberty has been studied from the standpoint of ceremonial. If there are periods of segregation, mutilations, instructions, taboos, rituals surrounding puberty, the ethnologist sets them down with conscientious regard for detail. If, however, the particular cul-

¹ This paper is based upon the combined field experience of Mr. Fortune and myself; on Mr. Fortune's experience in Dobu and Basima, my experience in Samoa, our joint experience in Manus of the Admiralties, and among a North American Indian tribe.

ture under consideration makes no formal point of puberty, stresses it by no ceremonial, no taboo, the ethnologist has in the past simply ignored the subject, counting his duty well done if he sets down: "These people have no puberty ceremonials." Yet a serious consideration of the problem will show that though the absence of a type of behavior inquired about because characteristic of other primitive societies is of historical interest, the mere recording of its absence is hardly an adequate statement about the society in question. The young people of Dobu and Samoa have to grow up just as certainly as do the young people of Manus or of the Orokaiva. Their own attitudes towards the increasing responsibilities of maturity, their behavior towards each other, towards their parents, towards members of the opposite sex, is just as much a fact of culture as if it were rendered explicit and conspicuous by ceremonial and taboo.

What can be said of puberty can be said with equal justice of childbirth, which is dismissed with a sentence if there are no religious or social rites, or immediately observable and striking customs; of marriage, to which pages are given only if the particular culture has happened to seize upon marriage for obvious elaboration. The field ethnographer in the past has too often been prone to describe culture only in terms of the conspicuous, the conventional, and the bizarre. It is at his door that many of the most characteristic errors of the arm-chair theorizer must be laid; there is small wonder that Lévy-Bruhl sees the native as pre-logical, or Crawley as obsessed by ideas of sex, when only the cultural elaborations of the unusual are presented for their consideration.

In addition to this tendency to neglect whole aspects of culture, there has also been a failure, very often, to distinguish methodologically between the forms under which various aspects of culture appear in different societies. The religion of a people like the Zuni, with their fixed calendrical ceremonial lends itself to a different type of analysis than does the religion of the Western Plains. In one case, the ground-plan of the culture is laid down and individuals pass through it, their experience is subsidiary, at least for a general understanding of the culture, to the plan itself. In the other there is no such ground-plan; only from the records of individual visions, from a running record of the lives of individuals, can an adequate picture of the structure of religion be gained. This contrast can be drawn equally well between any other calendrical and non-calendrical people: in Hawaii the chief religious festivals occurred at stated seasons each year; the gods marched through the districts and each district presented tribute; among the Maori, on the contrary, it was an occasion, like the building of a great house or of a war canoe which called for important religious cere-

monies; without the occasion, there was no ceremony. The observer of one year among the Maori might come away without having seen most of the ceremonies; this would have been impossible among the ancient Hawaiians, where the ground-plan, laid down in time, instead of the running current of events, was the cultural theme.

Again, if the comparison is made between those people who depend upon formulas and those who depend upon extemporaneous speech or invocation, the field worker is confronted with the same problem. The Dobuan who recites a spell, makes every effort to recite it unchanged; unless the student is primarily interested in those slight variations which occur in the transfer of an oral tradition, it will not make much difference whether he learns the charm from father or from son; and one text will give him the form of the spell as perfectly as would five renderings of the same spell by different people, if so be it the spell was shared by that number of individuals. It is otherwise, however, with the speeches which a Manus man makes to his guardian ghost whenever he gives a feast. These are extemporaneous, follow no such set verbal scheme; one man will complain of his recent bad luck with his crab baskets, another remark upon the recent illness and recovery of a child, a third comment gratefully upon rescue from a shipwreck, a fourth may wax facetious and almost discourteous to his supernatural. One of these speeches will not do as well as another; only by carefully recording a series of them may the cultural pattern, as firm, although more varyingly embodied in words, be derived.

In studies of leadership and political life, a great deal will depend upon whether the individual takes a fixed place in a hierarchical society, in which the person is only a temporary pawn, as in Samoa or among the Iroquois, or whether the headman owes his position, not to an inherited or acquired place in a permanent scheme, but to his own exploits which stand as his only claim to position. The contrast between the position of peace chiefs and war leaders among the Iroquois or in the Southern Plains is an example of this difference. A count of Iroquois sachems, of how they were chosen, of their various defined functions and duties, gives a formally complete picture of that aspect of Iroquois political life. The war leader, with an unstylized position based upon his personality, the number of personal adherents he could muster, accidents of success or failure on a war party, could not be studied in any such cursory fashion, in fact in most American Indian tribes was not studied at all. Where the pattern was explicit it was recorded; where any comparable statement would have entailed observations of the personality of war leader after war leader, and the fortunes of war party after war party, it was ignored. And yet would any

one seriously argue that the sachem was of more actual importance in Iroquois life than the leader of the war party which finally vanquished the Susquehannocks?

The study of kinship shows particularly sharply the effect upon investigators of formulated and unformulated kinship ideas. Rivers' insistence that wherever there was a special kinship term, there the investigator should look for kinship function, could be paralleled by a statement, that wherever there is no special kinship term, the average investigator does not think of looking for a special function. Yet the facts of patrilocal or matrilocal residence may make either a maternal or a paternal grandmother stand out more sharply in the life of a child, without any difference in terminology. There may be one term for parents-in-law, used by husband or wife indifferently, yet residence arrangements may make a great difference as to which in-law relationship, parents to son's wife or parents to daughter's husband, is the more significant in the life of the people. In Samoa there is one word for younger sibling, *tei*. A formal account of the kinship would merely state that this is "younger sibling, either sex, regardless of sex of speaker." Actual observation of conditions reveals the fact that this is a term which is very seldom used by males and used particularly seldom by grown men. Its real usage, aside from its formal origins, which it shares with other Polynesian kinship systems, is intimately connected with the fostering relationship between a girl-child and her younger siblings.

Upon these very real differences in cultural explicitness there rest several points of method. In the first place, only the formal points can be obtained from informants in a dead culture. Students of American Indian cultures today, with the exception of the Southwest, will have to content themselves in most part with recording those aspects of a people's lives which the culture had elaborated and formalized, either in myth, kinship terminology, or ceremonial. But it should be realized at the outset that such material is merely data upon cultural emphases, a series of partially complete skeletons which must often, if not always, give a most distorted view of any given culture. The facts of birth, child training, family life, marriage, widowhood, old age, death are of as great importance in the life of every individual in the culture, whether that culture has seized upon them for externalization in ceremonial or not. It is impossible adequately to discuss the form of a culture which is only known at various obtrusive and often accidentally chosen points, with whole areas of the human lives lived within it unknown.

This point of view may be submitted to a test by selecting a culture where the explicit aspects of the culture have been perfectly recorded with

a fine feeling for form and structure, but where there has been no record given of all the unformulated cultural attitudes which give that form meaning. The Banaro² is a case in point. Thurnwald presents the reader with a description of a situation which would seem to provide for an endless amount of conflict; a woman has to stand aside while her husband initiates a young girl, a man while his wife initiates a young man. Here the traditional setting for jealousy which comes with age and failing powers is explicit, but we are given no material on the attitudes which make the situation bearable or possibly desirable to the Banaro. Similarly, the young husband has to forego not only his bride's first favors but all her favors until she has born a goblin child to her goblin father. What is the attitude of the husband to this goblin child, as compared with his attitude towards the children which he believes are his? Is this a point which is made or ignored or differently phrased? What is the effect upon marital happiness when both men and women are formally initiated by experienced elders? Into what category does the bride fit the goblin father, into that of husband or of father-substitute? Thurnwald has given us only one clue: he remarks that the Banaro boys are so absorbed in their system that it is difficult to find work boys among them. This is evidence that the system works, for willingness to sign on as indentured labor is a good index of the degree to which the young men's lives are integrated at home—at least this is so in other parts of Melanesia.

In contrast, take the kinship structure of Dobu. Set down in formal ethnographic terms, it could be phrased as bi-local residence, the married couples spending alternate years in their respective villages, the villages being coterminous with the sub-clan group. The wife has a house in her village and the husband has a house in his. Such a statement would give no clue to the fact that in Dobu, as Mr. Fortune has demonstrated with careful documentation,³ the bi-local residence is a festering point in the social life, a device by which a woman may betray her husband with her clan brothers, and he in turn, the following year, betray her, a continual reminder of the fear of sorcery, because all affinal relatives are witches and sorcerers, a form of social organization so rife with difficult situations that individuals in order to stabilize their marriages frequently attempt a usually unsuccessful suicide.

Again in the matter of name taboos and their rôle in the group life: Williams states of the Orokaiva,⁴

² Thurnwald, R. Banaro Society: Social Organization and Kinship System of a Tribe in the Interior of New Guinea. AAA-M III, no. 4.

³ Sorcerers of Dobu, London: George Routledge and Sons, 1931.

⁴ Williams, F. E. Orokaiva Society, Oxford University Press, 1930.

When he takes a wife she is economically absorbed into his clan and her life in all important respects belongs to that clan; and he by certain elaborate precautions, of which name taboos are an instance, takes good care to remain on good terms with his relatives by marriage.

But what does this mean? In Manus, where a man also observes name taboos towards his affinal relatives, they are a most effective way of keeping affinal relatives apart, for—and this is inexplicit, hence would escape conventional study—a woman may not discuss her husband with her relatives, nor discuss her relatives with her husband. If she does so, even obliquely, she is violating the spirit of the taboo, although only the name taboo is explicit. When relatives draw together, the affinal relatives must be completely excluded from the circle of attention or reference. This may act to prevent intimacy in marriage, as in Manus; it may, as Williams lightly suggests, cement marriage, but it is impossible to tell which from a mere statement of form.

This might seem to be a mere reiteration of the functional point of view, but it adds to the contention that the form of institutions must be illuminated by study of their function, the contention that there are wide areas of human life which, inexplicit in a given culture, nevertheless have both form and function in the society. Attitudes towards a child, attitudes towards the aged, standards of friendship, habits of direct or indirect statement of desired ends, conceptions of motivation—all of these are fit and appropriate subjects for the detailed study of the ethnographer. Studying the Trobriands on this basis, after a careful investigation of the form and function of mothers' brother right, it would be necessary to study in more detail, because it is less explicit, that aspect of the culture which Professor Malinowski has called "father-love." It would be necessary to know how many fathers are real fathers, how many step-fathers; how father love operates *in absentia*; how often the ties which bind a child to its father are strong enough to survive the father's divorce from its mother; how father's preference and mother's brother's preference may be made to dovetail and supplement each other within a family of several children. Similarly, Professor Malinowski's statement that delayed weaning makes weaning of less psychical moment to the child would have to be supported with case histories of children, actual details of weaning, the child's comments, the mother attitude, the results of aberrant methods or times of weaning, etc.

Moreover, this question of inexplicit aspects of culture has most important bearings upon two other problems of field method, the time necessary to make a study, and the way in which the study is to be made. Again we may disregard for a moment those aspects of life which have been tra-

ditionally ignored by ethnologists whenever they were inexplicit in the culture. For the study of a calendrical religion as compared with an episodic religion very different methods must be used. A calendrical religion once followed through its prescribed round with a competent informant at one's side may be formally known. Similarly the Kula, studied once or at most twice to allow for return gifts, would present few surprises. It is formalized, occurs at regular intervals, and in a prescribed way. (This is to leave aside the question of the degree to which the variation in the functioning of a formal institution may be studied in a society.) But a special study of trade in the Admiralty islands would have to be attacked very differently. Without a set time and place and manner of trading, without definite trading partners, without a defined route by which certain products move always from one island to another, trade in the Admiralties is a bewildering conglomerate of trade relationships between tribal groups and the exigencies of affinal exchange within tribal groups which have then their reverberation in the casual day by day market between land and sea people. Such an unformalized mass of activities must be studied many times; no informant can generalize upon it as an intelligent Dobuan can generalize upon a section of the Kula; the field worker can only understand the pattern after following the trading activities of many individuals in many different places. Furthermore, for the study of an unformalized part of culture, a knowledge of the language, a much more extended *entrée* into the lives of the people, a much more complete participation in their lives is essential.

When the question is not a matter of unformulated adult behavior, but of the behavior of children, the matter becomes immediately more complicated. The process of education in primitive society is primarily a matter of assimilation to type. More and more of the life of the individual becomes explicit in the culture, casual tussles are replaced by games with recognized form, and finally feud and warfare have their defined rules. The attitudes of a little child towards relatives become codified in a set of formal terms of address, and in rules of respect, avoidance, jesting, or casual behavior. If any of these are to be studied in children before the form of the culture has been conspicuously stamped upon them, a very different method must be employed from that of conventional field work. The relationship between a chief and his talking chief in Samoa is culturally standardized, and any intelligent Samoan can report upon it, but nowhere can one receive explicit information upon the friendships of children, except from actual observation of a large number of individual children through a long period of time.

So it may be said that different aspects of social life will differ from cul-

ture to culture as to the degree of external and explicit form which they have been given, and secondly that within any culture there is likely to be found a varying degree of explicitness between the behavior and attitudes of children and the behavior and attitudes of adults. To what degree the formulations of child life will correspond with the adult culture is very probably a matter of emphasis, whether adults are interested in children or not, and whether moments in the child's life have been chosen as points about which the formal life of the culture is organized. At present there seems no justification for assuming any necessary relationship between those aspects of culture which are explicit in adult life and those which are explicit in child life, although one will often be a reflection of the other. As an example of lack of correlation, in the life of the Samoan female child, the locality is of great importance, her friends are chosen from the immediately adjacent households. Upon growing towards maturity this emphasis upon locality gives place to the more important ties of kinship and rank: a girl will seek out her cousins; a chief's wife, the wife of her husband's talking chief. The behavior of children could not be retrospectively derived from an analysis of the companionships of adolescent girls or grown women, nor could the alliances of the latter be set down to childhood friendship patterns. Similarly, there are two types of relationship between boys in Samoa, both of which are called by the same term, *soa*. One type of *soa* is a companion at circumcision, a prepubertal alliance between small boys who are close comrades; the other is an alliance between young men, one of whom acts as go-between for the other in love affairs. The similarity of terminology alone, not to mention the fact of explicit friendship in both cases, would lead the investigator to think that the same pairing off existed throughout boyhood, and yet a careful investigation revealed that the first *soa* relationship resulted from the friendships bred in the neighborhood group; the second, which did not correspond in personnel to the first, was a reflection of the rank and kinship patterns which were so much more important in adult life. Nevertheless, this neighborhood group which would seem to have been overridden in many ways in maturity very probably played a dynamic rôle in the political life, for where large villages split into two political subgroups, the split followed neighborhood lines and occurred first, not among the leaders of the village political life, the titled men, but in the formal young men's group, the *Aumaga*. The strong habits of childhood, of close solidarity with neighbors and hostility to those who lived at a distance, even though they were kin, reasserted itself when the *Aumaga* became too large. So a study of children's allegiances,⁵ themselves inexplicit but as

⁵ See the author's *Coming of Age in Samoa*, New York, William Morrow, 1928, and *Growing up in New Guinea*, New York, William Morrow, 1930.

definitely patterned as a fine textile, also served to throw light upon the political processes in the culture.

It has been my fortunate experience to have twice held fellowships which not only permitted, but required that I concentrate upon the study of inexplicit unformulated aspects of culture, the behavior of the adolescent in Samoa, and of young children in Manus. The conditions of my field grants have therefore acted, not as a deterrent, as they so often must when students are sent out with a definite ethnographic commission to fulfill, but as a stimulus to the development of methods for dealing with various forms of cultural inexplicitness. The discussion of particular methods in ethnology often seems to be a barren occupation because the same method will vary so much in two investigators' hands, and because each culture presents unique problems for the solution of which special methods must be devised. Nevertheless, because I feel that for an adequate understanding of human culture, it is absolutely essential to study carefully all parts of a culture, and not merely those which present the superficial appearance of having greatest form, it may be worth while to go into some detail as to methods which I have found useful.

Reviews of my two studies have revealed very clearly two facts: first, that many anthropologists are far from clearly realizing that child behavior or sex attitudes are as much a part of culture, are as distinctly and as elaborately patterned as are religious observances; and, second, that they have no very definite conception of how such inexplicit aspects of culture are to be studied. For example, Professor Kroeber writes of data upon children's behavior as "clues" and objects because I confined my comparison of methods of education to Manus and Samoa "without even Trobriand." This criticism implies, first, that children's behavior is not a cultural fact which can be studied like any other cultural fact, and from the study of which a careful observer is as justified in drawing conclusions as is, e.g., the student of social organization; and, second, the mention of the Trobriands shows that Professor Kroeber does not realize the difference between studying an inexplicit aspect of culture and merely commenting upon it. If I were to have written up Samoan canoe-building and Manus canoe-building in formal technological style without comparing either to the Trobriand technology, I should have met with no such criticism, for Professor Malinowski has not yet published on the technology of the Trobriands. But because Professor Malinowski's work contains many astute and vivid passing comments upon children, the student of child behavior in another culture in Melanesia is censured for being unhistorically-minded, for not comparing the results of fourteen months' continuous study of a particular subject with the comments of an observer who was in no sense specializing on

children and who makes no claim to have studied them individually.

It would seem therefore necessary to state in some detail the methods I have used. In the first place, for a study of children, it is necessary to remain in one community, because the task of establishing rapport with every member of the group chosen for study does not permit of interruptions and absences. The community must be mastered in detail,—residence, inter-relationships, names, clan affiliations, economic status, and past, existent and projected marriages must be got by heart. The rudimentary materials with which such an investigation operates are: an understanding of the form of the culture, a speaking knowledge of the language, a detailed knowledge of the chosen community, and a special knowledge of every individual within the particular group being studied. From these preliminary requirements various practical counsels flow naturally: the student who has a short time at his disposal or who prefers to concentrate upon a particular problem without spending much time upon the details of other aspects of ethnography than the one under investigation, or the student who works in a bad climate where prolonged residence is not advisable, should work in a known culture or work in collaboration with another investigator who is making a study of the explicit aspects of the culture. It is advisable to choose a language which can be learned quickly and to settle in a community which is not too large or too scattered. Unknown names or unknown faces put the investigator at an immediate disadvantage. Where problems and languages and time available are to be adjusted to each other, the student of children will be less handicapped by a difficult language than will the student of some abstruse point of adult life, for the vocabulary and sentence structure of children is so simple that an investigator will be understanding all that a child says long before a complex discussion with an adult can be satisfactorily carried on.

The method I have followed so far has been to choose a group of children of a definite age range, and in Samoa of only one sex, and to study this group intensively. I have been dealing throughout with aspects of culture which were for the most part unformulated. An adult in Samoa can tell the investigator that boys do not play with girls, that brothers and sisters should avoid each other, that children are afraid of ghosts; he cannot tell one whether children play with elder siblings of the same sex or with friends, along what lines children form friendships, what children's attitudes are towards the adults of the household, in what relationship a girl stands to a headman who is her father as compared with a headman who is not her father; on what grounds children are left free to choose to reside in one household instead of another. Similarly in Manus, adults can tell one that

little girls don't learn to shoot fish, but not on what terms children of both sexes play together, nor how the children's group is organized in respect to age—whether there are fixed allegiances between pairs of children, or whether and under what conditions an older boy plays with a younger one. All of these facts, and they are facts of culture just as surely as are the ways in which a canoe is made or a clan organized, have to be derived from a long series of observations, far longer than for canoe or for clan.

It will be immediately obvious that the less explicit a cultural fact is, the larger the number of observations, and the more complicated the method of study will become. This is true not only of children but also of adults. In Manus, Mr. Fortune made a careful study of the religion: to do so it was necessary to attend and record a great number of séances, describe all the issues, the social and economic relations which lay back of the séances, the ruses and devices of diviner and medium; to compare the diagnosis of cause of illness given immediately with the diagnosis later adopted generally. It was necessary to record infinitely more instances, in order to present an adequate study of Manus religion, than to make an equally adequate and formal statement of Dobuan magic; one system had explicit form, which the other lacked.

Similarly, in Manus and on the island of Pak, the same formal kinship system obtains in which the grandson of a woman theoretically marries the granddaughter of that woman's brother (with one typical exception which I shall not note here). But on Pak this marriage actually does take place; genealogical records reveal the painstaking care with which the proper marriage is made whenever possible. In Manus, on the other hand, this explicit theory serves to mask a most inexplicit and unformulated practice in which this traditional child of cross-cousin marriage is only a formal way in which men of means succeed in marrying economic wards to one another. To understand the Manus system, which is unformulated, requires the painstaking collection of a great number of marriage records before a generalization can be made.

Behind every general statement about the behavior of children in Manus and Samoa lies a long line of observations, which are not made at random and recorded casually, but are made systematically about a selected group of children, on points which preliminary investigation has shown to be most significant. To take an instance, in Manus I studied the effect of personality of fathers upon the personality of the sons whom they have reared. From the early observation of the group, I saw what any good observer would see, that fathers paid a great deal of attention to their children, that fathers seldom disciplined their children, and that between two

or three pairs of fathers and sons there was a close resemblance in external character traits. From the analysis of households and from genealogies I knew that adoption was frequent. Now this is the point at which the specific student of children and the good ethnographer interested in some other point will diverge. The disinterested ethnographer will report:

Fathers take a great interest in their children, permit them to go everywhere with them, and seldom chastise them. It is amusing to see how closely the behavior of some children corresponds to that of their fathers.

This is the most that one could reasonably expect from a busy observer of other aspects of the culture and it is, as a matter of fact, about a hundred per cent more than one usually gets from the average field worker, on any unformulated point of culture which he is not actively investigating.

But as a student of children particularly, I now proceeded to attack this particular problem in detail. I studied the behavior of fathers towards sons who were still babies; the behavior of older children towards their fathers; the behavior of children whose fathers had died while they were very small, later, or at puberty. Adoptions and blood relationships were tabulated and the true parentage of adopted sons was worked out. The behavior of foster-children and foster-fathers was compared and set beside a comparison of the behavior of these same children and their real fathers of whom they had seen very little. Recently adopted children were studied in relation to past home and present home. As Mr. Fortune's and my joint studies of the social organization revealed that assurance and dominance of manner were definitely related as interdependent cause and effect with economic status, which in turn was partly correlated with age, partly with temperament, the children of men born at different stages of their economic career were studied and compared to one another. Siblings who had been reared by different adults were studied, as were also the children of widows, and children reared in homes where the wife was dominant. Every attempt was made to find out, by observations of normal conditions, by a study of deviant conditions like widowhood and orphanhood and no adoption, by a study of deviant children—like the one small boy who claimed to have seen his dead father—what was the pattern of child-son relationships, at what points it was crucial, what was its rôle in determining the character of the child, what were the interrelations between economic success and character as derived from type of father or foster-father.

All the details of such an investigation as this cannot be published, any more than can the details which lie back of the final conclusions of any ethnologist upon any aspect of culture. But before the problem can even

be grasped, before the importance of any aspect of education or family relations can be evaluated in terms of its relationship to the culture and to the personality of the individual, a great number of minute and consecutive observations must be made. Similar analysis and controlled observations, long records of average behavior, utilization of the deviant situation and the deviant individual, lie back of statements about age groups, types of leadership, kinds of quarrels, types of friendships, etc. And a detailed study of child behavior, or of parental attitude towards children shows that these aspects of culture are as formal, as patterned, as individual to the cultures in which they are found, as are kinship systems or religious forms. They are also as important to the individual who is moulded by and in his turn moulds his cultural forms.

Nor are they without definite historical interest also. The father-child situation—in broad outline one of close and fairly uncritical affection—has been reported for Manus, Dobu, Trobriands, and the Orokaiva. It is thus a Melanesian feature which may be found to be characteristic of a much wider culture area, just as it has already been found to transcend the borders of patriliney or matriliney. But a comparative study of father-son relationships as a basic form of personal relations in Melanesia can only be made upon the basis of detailed studies such as I have described.

It would seem unprofitable to labor further a discussion of my own particular methods, devised to meet definite situations, many of them suitable for only one culture. In Samoa where moral attitudes were inexplicit, I had resort to the device of getting every girl to name a series of individuals—the best man, the wisest woman, the worst boy, the best girl, etc. in the village. Only by collecting a large number of such judgments could the implicit moral standards of the children be discovered. In Manus the moralistic nature of the society rendered all such attitudes explicit and this device was not necessary.

The relationship of the individual to his society is an aspect of culture which is given varying explicitness in different societies. Where the culture has conventionalized individual religious experiences (Western Plains) or aesthetic gifts (Maori tattooing), or formally makes one person the butt of jesting as among the Okanagan, the aspect of individuality or temperament so selected will be relatively open to investigation. Where all recognition of individual contribution is smothered beneath heavy trappings of traditional behavior as in the Pueblos, the study of individual contributions will have to be approached as deviously as the study of unformulated child behavior. This does not mean, however, that the rôle permitted the individual innovator, the degree of recognition of the peculiar gifts or limita-

tions of one personality over against the personalities in different societies, the mechanisms by which individual differences are emphasized or minimized, or artificially discounted, are not aspects of culture. But they are aspects of culture which must be studied through detailed analysis of the problem and controlled observation of series of individuals against a known cultural background.

Similarly the problem of social control—what are the mechanisms by which the individual is made to conform to the standard of the group—would have to be investigated by a study of a series of individuals of different ages, sex, and social status. A study of the genesis of social control in children of different ages would have to be made, combined with a study of the relative strength or weakness of habits of social conformity in the behavior of marked and undistinguished personalities, and the behavior of individuals away from the home, the village, the tribe—if such a study were possible. For instance, Manus natives abroad preserve their strong respect for property inculcated in early childhood, but their sex standards which are enforced by fear of the resident ancestral spirits disappear in a foreign community.

Only with time can we develop criteria by which the validity of this type of observation can be judged. As a preliminary basis of evaluation I suggest: (1) the degree to which the investigation of any inexplicit aspect of culture shows it to have definite form, so that the type behavior described for one culture differs or is formally similar to the type behavior of another culture; (2) the degree to which deviations when intensively studied tend to support the formal generalization which has been made; (3) in special cases the application of the test of the presence or absence of the normal curve of distribution.

If an investigator finds size of families in primitive society following a normal distribution, he may assume the difference in size of families is the result of biological factors, but if he should find no family exceeding two children, he would be justified in looking at once for a cultural cause.

In a study of animism among the children of a particular culture, if children were found to vary according to the normal curve, the presence of animism might be suspected to be a fact of psychology, rather than of culture. When, however, animism is found in no child in a society, the investigator may regard its absence in that society, and probably therefore its presence in children of other societies, as a cultural fact. (With an increasing knowledge of cultural processes we may be able to add some test of internal consistency of results on explicit and inexplicit aspects of culture, or of

adult and child behavior. At the present time we have not sufficient knowledge to do this.)

The ethnologist has defined his scientific position in terms of a field of study rather than a type of problem, or a delimitation of theoretical inquiry. The cultures of primitive peoples are that field. In order to adequately describe primitive cultures, it is necessary to extend the present narrow, accidental and inadequate rubrics under which most investigators have been accustomed to collect and present their data. It is necessary to realize that the whole of man's life is determined and bounded by his culture and that every aspect of it, the inexplicit, the unformulated, the uninstitutionalized, is as important to an understanding of the whole, as are the traditional institutions about which it has been customary to center inquiry.

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PATRILINEAL AND MATRILINEAL ORGANIZATION
IN SUMATRA: THE BATAK AND THE
MINANGKABAU

By E. M. LOEB

INTRODUCTION¹

THE social organization of Indonesia cannot be treated apart from that of Southeast Asia for, as Heine-Geldern² has demonstrated, the two regions form a cultural unit. Sibs are to be found among most of the peoples of the mainland who are not of higher culture, in Nias, in the greater part of Sumatra (including the Batak, Gayo, and Minangkabau), and in eastern Indonesia. Borneo, Celebes, and the Philippines lack it. Matrilineal sibs or clans are strongest among the Garo, Khasi, and Sinteng of Assam, among a few Moi tribes of Southeastern Asia, among some tribes of Formosa, and in Minangkabau.

According to Kroeber,³ throughout the world exogamy and totemism, matrilineate and patrilineate, multiple and dual sibs, all show a strong association with one another. The Southeastern Asia culture area, in conjunction with facts from elsewhere, points to the conclusion that cross-cousin marriage likewise is associated with these traits. In Assam the Mikir have patrilineal sibs, and a man marries his mother's brother's daughter.⁴ The same rule holds for the matrilineal Khasi⁵ and Garo.⁶ The mother's brother's daughter marriage is found among both the patrilineal Batak and the people of South Nias.⁷ In eastern Indonesia it is found in Flores, Sumba,⁸ and the Moluccas. It is associated with patrilineal sibs in Ceram, Tanimbar, and the Kei islands.⁹

Frazer¹⁰ has noted a few cases of symmetrical cross-cousin marriage in eastern Indonesia, i.e., a man may marry either his mother's brother's daughter or his father's sister's daughter—thus simply, the children of brother and sister may marry. These examples occur in the districts of Ende and central Manggarai, both in the island of Flores, and on the islands of Keisar or Makisar, Aru, Leti, Moa, and Lakor.

¹ The material for this paper was obtained in 1928–29 while the author was a John Simon Guggenheim Fellow in Austria and Holland.

² See Bibliography.

³ P. 237.

⁴ Stack, 18.

⁵ Gurdon, 78.

⁶ Playfair, 68.

⁷ Schroder, 261.

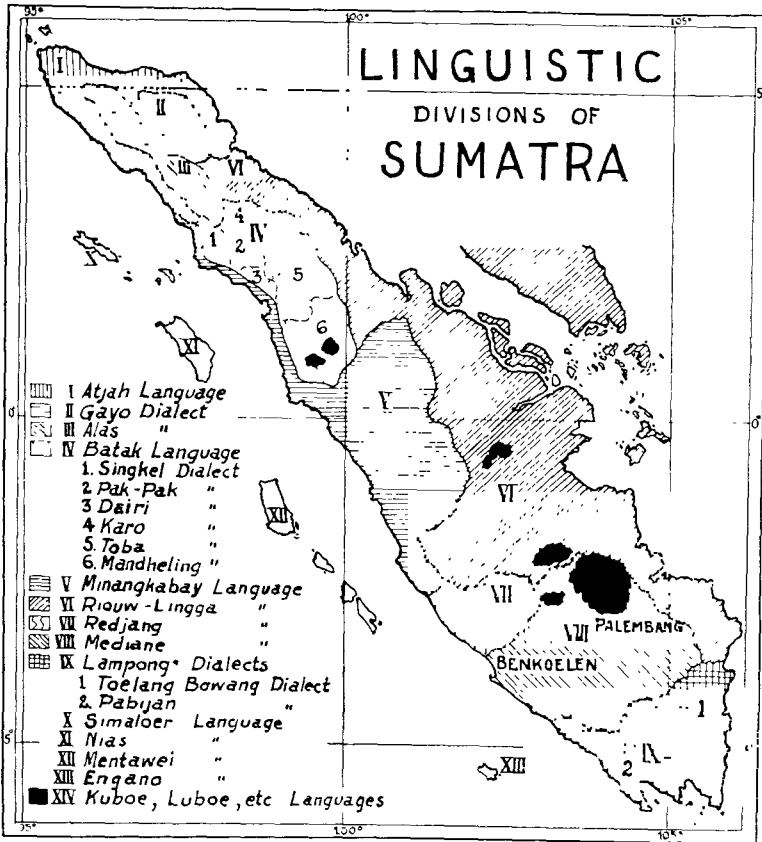
⁸ E-NOI, 120. (See Bibliography, under final title.)

⁹ Duyvendak, 124.

¹⁰ Pp. 168, 169.

Heine-Geldern¹¹ has noted matrilineal moieties among the Garo and patrilineal moieties among the Angami of Assam. He believes that the four sukus of Minangkabau were originally paired. Elsewhere, however, moieties are lacking in Indonesia.

Totemism is to be found¹² among the Khasi, some of the Naga, and a portion of the Bodo people of Assam. Some of the Batak, too, are totemis-



Map 1 After Collet.

tic, and so probably are some Gayo and Nias sibs. This trait is especially strong in eastern Indonesia, occurring in Ambon, Ceram, Buru, Halmahera, and Aru.

The most striking examples of patrilineal and matrilineal social organizations, however, are furnished by the Batak and Minangkabau peoples of

¹¹ P. 893.

¹² *Ibid.*, 894.

Sumatra. A study of these, in my opinion, shows that, at some early date, both lacked sib organization, which came to them from the mainland in pre-Hindu times. The Batak then became intensively warlike as well as patrilineal, and the Minangkabau a peaceable matrilineal group.

Actual Hindu colonizers founded the kingdom of Crivijaya in Palembang, which had reached its full cultural development in the seventh century of our era.¹³ Later the kingdom of Malayu arose as a rival of Crivijaya on the site of the present Minangkabau.¹⁴ Thus the matrilineal Minangkabau were under direct Hindu influence from an early period of our era, whereas the Batak were, for the most part, only indirectly affected. In the same way, while Minangkabau was under Mohammedan influence from the middle of the sixteenth century, the Batak remained isolated from Islam influence until the time of the Padri rebellion (1815), when the southern portion was forcibly converted. Here, thus, we have an example of a matrilineal people preserving its native organization under the rule of the two most patrilineal religions the world has known.

I. THE BATAK

The people. There are today about 600,000 Batak.^{14a} A certain amount of foreign blood has found its way into the country. The Karo Batak contain a considerable mixture of Dravidian elements from India, and among the Karo, especially among the Pakpak, there has been a migration from Ala, Gajo, and the Atjahnese. To the south, in Mandheling, we encounter intrusive Minangkabau peoples.^{14b}

The Batak are divided into a number of linguistic groups, among them the Singkel, Pak-Pak, Dairi, Toba, and Mandheling. The Toba Batak who live east of Toba sea are called Timur (east). Actually there are only two main linguistic, as there are perhaps only two main ethnographic, divisions: (1) the Dairi, including the Dairi proper, the Pak-Pak, and the Karo; and (2) the Toba, who speak the other dialects.¹⁵

Hindu influence. A certain amount of direct Hindu influence is said to have come from the east (Timur). This country is believed by the Batak to have been the starting-point of native "science" (divination books, magic

¹³ Ferrand, 1.

¹⁴ *Ibid.*, 146; Krom, 361.

^{14a} The origin of the name Batak is not certain, but it was already in use in the seventeenth century. It was probably an abusive nickname given by the Mohammedans and signifying pig-eater. The Batak have taken up this nickname as an honorary title, thus distinguishing themselves from the Djawi, the Mohammedans, and Malays. (Joustra, 1902, 386).

^{14b} Joustra, 1926, 9.

¹⁵ Joustra, 1926, 9.

staves, and magic preparations). The more important Hindu traits imported into the Batak country were wet rice culture, the carabao, the plow, the peculiar style of dwelling, chess, cotton and the spinning wheel, and Hindu vocabulary, system of writing, and religious ideas. Some of the colonies from India were Dravidian, as has been shown by the presence of Dravidian sib names among the Pak-Pak, Karo, and even the Gajo and Alas.¹⁶ Even the Batak term for sib (Toba, *marga*; Karo, *merga*) is Sanskrit in origin.¹⁷ Mohammedan influence came to Sumatra earlier than to Java, stopping Hindu influence on the Batak and thus isolating them from contact with these higher civilizations.

Government. Among the Batak the margas (sibs) have no function in governing. The chief unit of government among them is the huta (Karo, *kuta*) or village (i.e., territorial unit). Among the central Batak (Toba) this is the only unit of government, whereas among the Karo most of the large villages are composed of hamlets (*kesain*), each with its own name, chief, territory, and settlements outside of the principal village. Formerly wars between hamlets were not infrequent.

Among the Timur and Karo Batak there existed a tendency toward the formation of states. Among the former this was pronounced, owing to Hindu influence. The Timur districts, ruled over by radjas and their families, are the only large territorial units. These, however, are often conglomerations of almost independent units and have somewhat the appearance of mediaeval feudal states. All minor rulers, including the heads of villages—the *berbapaän*—must belong to the family of the radja. Among the Karo confederations of villages are often found, the word “*urung*” actually meaning “association of villages.” Yet the village (*kuta*) itself remains the actual unit of government.¹⁸

Apart from the Timur Batak the form of government is truly democratic. The orders promulgated by the radjas must conform to the *adat*, are then deliberated over by all adult men of the village, and finally decided upon by a majority in a council held in the village communal house (*sopo*). A radja probably would be more despotic were it not for fear of losing his constituents. When a village is oppressed by its radja, the members leave and place themselves under the protection of a neighboring radja, who always receives them with open arms since they strengthen his power. When

¹⁶ Joustra, 1912, 16–20.

¹⁷ Sanskrit “*varga*,” meaning a collection of similar things or objects. Of course, the Batak had sibs before they acquired a generic name for them, just as the Indonesians had customs before they called their common law by the Arabic term “*adat*.”

¹⁸ Joustra, 1926, 193; Alkema, 82; Tideman, 92, 94.

these seceding fighters are then demanded back and this is refused, war invariably follows. In fact, this is the chief cause for the constant warfare between villages.

Women are excluded from all public gatherings, although this rule is not rigorously carried out. Often they get their opinions into the council house and, not only are heard, but, if it happens to be the opinion of an elder shaman, acclaimed.¹⁹

Though the position of ruler is territorially determined and not inherited among the Batak, the ruling radjas are always chosen from a certain marga, and their wives from another. The men of the second marga then always marry into the ruling marga. In Timur, however, while there is a ruling marga, no marga has the function of furnishing wives for the radjas. Among the Karo the five main marga are to be found in every village, although in every district a certain one is in the majority and is generally said to be the oldest one in the region, as well as the ruling one. According to Joustra,²⁰ irrespective of actual power or following, every male representative of this marga calls himself radja or sibajak (rich, illustrious). In some villages there are more radjas than subjects. In Toba the Dutch government has cut down their number considerably.

Notwithstanding the strife as to precedence within the villages, a united front is maintained against outsiders. Thus, in Toba the chief radja is called radja huta, and alone deals with other villages. Sometimes, however, this rank is split between two men, a man and his brother-in-law. One then is the leader and the other the diplomat. The rule passes from father to son or younger brother, according to fitness. The radjas deal with intervillage matters abroad and act as judges at home.²¹

In Timur and the South Batak country native society formerly was divided into nobility, commoners, and slaves or "pawns." Elsewhere the main distinction lay between free men and slaves.

Villages. In Toba the huta (hamlet or village) consists, as a rule, of six or seven houses (baga) and some sopo, council houses. The houses and sopo are placed in two rows opposite one another. They are built on piles of wood and are covered with idjak or rattan leaves. The carabao, cattle, horses, and pigs are kept under the houses. Three or four families (ripe) live in each house.

In the northern parts of the country, owing to the rigor with which sexual avoidance customs are maintained, boys above the age of ten and wid-

¹⁹ Junghuhn, 96, 97.

²⁰ 1902, 395.

²¹ De Boer, 355.

owers are forced to spend their nights in the sopo. In the south, unmarried girls also are either guarded by the radja or sleep in a separate house (bagas podoman), where they are guarded by a widow but are allowed male visitors.

Among the Karo the village (rumah) possesses dwelling houses (rumah); the young men's houses (djambur), different forms of buildings for the keeping of rice, and structures where women grind the rice. Sometimes there is also a smith (perpanden), as well as a skull house (geriten). Normally there are eight families (djabu) in a house.²²

Land rights. The Batak sibs formerly were territorial. In Palembang Malay "marga" means district, and among the Garo the sibs are still territorial. Among the Batak, however, the territorial nature of the sib is shown chiefly in the presence of "ruling marga" and in the fact that the various marga in the village sometimes own their own cultivated ground.

Formerly, no matter how large a marga was, its members lived in a fortified village (huta) or village complex. Such a Toba village consisted of (1) the people of the marga, (2) those who married in from other marga, (3) strangers (dagang), and (4) debtors, mostly slaves (hatoban). The members of such a marga stayed as near together as possible; in case of over-expansion some members left but remained in the district. Later on, at the time of the East Indian Company, for instance, there were fewer wars, and the marga broke up into numerous subdivisions. New villages were founded as distant from one another as possible. Under such conditions the people no longer regarded themselves as descended from the old marga ancestor (ompu) but from the very much later village founder. Often, as the marriage price became burdensome, men married matrilocally, which brought alien marga into the village. While the first-comers thus kept their rule, the village itself, not the sib, became the unit of government. Each marga in the village has its own grounds which it rents out to the members of the sib.²³

Inheritance. Women and children are denied right of inheritance and must be supported by male adults. Where the adat is most strictly observed, ultimogeniture holds, the youngest son having the most rights, and next the eldest. Usually both youngest and eldest divide equally in preference to the other sons. No difference is made between the claims of sons from different wives. In Mandheling:

The sons inherit from their father, grandfather, and further grades in the ascend-

²² Joustra, 1926, 13.

²³ De Boer, 355-357, Joustra, 1912, 9.

ing line. At the death of the son, the grandchildren inherit. If anyone dies without leaving male descendants, then his father inherits or, if he is deceased, the brother's sons, or his nephews. If all of these are dead, then the head of the "ripe" (family) inherits. As long as there are male descendants, all grades in the ascending or side lines are excluded.²⁴

Kinship terms. I obtained the relationship terms from Mr. Tarip of Leiden, a native of Angkola, in South Batak. The language and terms are almost identical with the Toba ones I have extracted from J. Warneck's dictionary. Where there is a difference or uncertainty, I have listed both sets of terms, those from Angkola being marked (A) and the Toba (T). The Batak nomenclature has been influenced to an interesting extent by cousin marriage and the levirate. The set of terms following is the first full one ever published.

Parent-Child Group

Ama, father, father's older brother (T), all male relatives of father's side of same age group (T).

Ina, mother, mother's sister (T), wife of father's brother (T). (Inaina, a married woman, T).

Anak, son, brother's son (T), son of all sib relatives of same age (T).

Boru (ina address), daughter (girl, T), daughter of one's brother, and all relatives on father's side (T).

Grandparent-Grandchild Group

Ompu, grandfather, grandmother. Ompung doli (T), grandfather. Ompung boru (T), grandmother. Anggka (A), grandmother address. Ompu ruhut (T), grandfather and his brothers on father's side. Ompu bao (T), grandfather and grandmother on mother's side and their siblings.

Nono (T), ompu or anggi (A), grandchild from daughter. Also called ondokondok (T).

Nini (T), ompu or anggi (A), grandchild from son. Pahompu (T), grandchild address.

Sibling Group

Haha (T), anggka (A), older brother or sister, man to man or woman to woman.

Anggi, younger brother or sister, man to man or woman to woman.

Iboto, brother to female, sister of male. Also father's brother's daughter.

Uncle-Nephew Group

Ama, amangtua, father's older brother, father.

Uda, father's younger brother.

Tulang, mother's brother.

Ina (T), budjing (A), mother's sister.

²⁴ Joustra, 1926, 13; Willer, 185.

Namboru, father's sister. (From *ina ni boru*. *Anak ni namboru*, an endearing term from woman to man.)

Bere, nephew, niece, son-in-law. (Mother's brother or mother's brother's wife speaking.)

Anak (T), ama (A), nephew (brother's son).

Boru, niece (brother's daughter).

Maën (T), niece (daughter of brother of one's wife, daughter of one's sister-in-law, also her husband).

Cousin Group

(man speaking)

Ompu (A), father's sister's daughter, grandmother.

Laë (A), father's sister's son, brother-in-law.

Boru tulang (A), mother's brother's daughter.

Poriban (T), mother's brother's daughter, wife's sister or her husband.

Tungane, mother's brother's son, brother-in-law.

Anak, father's brother's son, son.

Iboto, father's brother's daughter, sister.

(woman speaking)

Anak ni namboru, father's sister's son.

Eda (A), father's sister's daughter, sister-in-law.

Iboto, father's brother's son, brother.

Anggka, anggi (A), father's brother's or mother's sister's daughter.

Laë, mother's brother's daughter, sister-in-law.

Spouses of Uncles and Aunts

Inang tua (T), nantua (A), father's older brother's wife.

Siporinaon (T), nanguda (A), father's younger brother's wife. (A Toba Batak calls all women thus whom he must treat as mother.)

Nan tulang, mother's brother's wife, mother-in-law.

Amang boru, father's sister's husband.

Parent-in-law Group

Tulang, father-in-law, mother's brother.

Nan tulang, mother-in-law.

Amang boru, father-in-law (woman speaking).

Nan boru, mother-in-law (woman speaking).

Parumaën, daughter-in-law (one in same house, ruma).

Bere, hela (T), son-in-law.

Simantua doli (T), simantua boru, general terms for father-in-law, mother-in-law.

Eda (A), man's mother calls man's wife's mother, sister-in-law.

Iboto (A), man's mother calls man's wife's father, brother.

Tungane (A), man's father calls man's wife's father, brother-in-law.

Ompu (A), man's father calls man's wife's mother, grandmother.

Sibling-in-law Group

Eda, man's wife calls man's sisters, woman calls brother's wife, woman calls husband's sisters.

Haha (T), angga (A), man's wife calls man's older brother, younger brother calls man's wife, man's wife's younger sister calls man, man calls wife's older sister.
(If person addressed is female, called haha or angga boru)

Anggi, the same relations, where age status of person addressed younger than speaker.

Tungane, man calls wife's brother.

Laë, man calls sister's husband

Bao (T), wife of brother of one's wife, or husband of sister of one's wife.

Boru tulang, man calls sisters of brothers' wives.

Step-parent Group

Ama, ina panoroni, stepfather, mother. (Sorin, to exchange)

Anak-na-sinoronan, stepchild.

Marriage restrictions. The Batak have exogamous sibs, which, however, have been so broken down by the altered conditions of life that now it is difficult to state the number of sibs among most of the Batak divisions, and sib exogamy is no longer strictly adhered to.

The Karo Batak have five main marga, each said to have been founded by a fictitious tribal father. There are no chiefs at the head of the marga or submarga. The village chiefs among the Karo cannot produce genealogical records of descent from the marga founders, as in the case of Toba and elsewhere.

The five main Karo marga are: Karo-Karo, Tarigan, Ginting, Perangin-Angin, Sembiring.²⁵ The marga are divided into submarga also called marga, and these again are divided into family groups called houses (rumah). It is absolutely forbidden to marry into one's submarga or into one's marga, if it is one of the first three of the above-named. In the case of the fourth, this restriction is less absolute; in the fifth there are many non-exogamous marriages.²⁶

It is impossible to state accurately the number and names of sibs elsewhere. Tideman, however, writes that the Timur have four main marga: Damanik, Sinaga, Saragih, and Purba.²⁷ Among the Toba, there is no accurate account of the number of sibs existing. Brenner and others speak of five major marga. Van Dijk and Warneck, however, claim that the central Batak and those of Ankola have two main sibs, Sumba and Lontung.

²⁵ Sembiring has eight out of twelve submargas with Dravidian names.

²⁶ Joustra, 1926, 181.

²⁷ Tideman, 87.

Joustra considers this statement is correct, there being two groups, the one composed of the descendants of Tuan Haringguan Godang and the other of Saribu Radja.²⁸

In general, a man must marry a woman of a different sib and the two sibs must not be of the same origin. Except in cross-cousin marriage a Karo also is supposed to marry a woman of a different sib than his mother's. Every child is instructed regarding his father's and mother's sib. Joustra writes of the Karo, who call the father's sib "marga" and the mother's "bëbëre":

All conversation between two strangers begins with mutual questioning (*ërtutur*) as to this point. This determines in what family relation the two stand, which decides whether they should call one another by name or use kinship appellations.

A man always begins by addressing a strange man as *silih*, brother-in-law. A woman addresses another woman as *bibi*, father's sister. A woman speaks to a strange man as *mama'*, mother's brother. A woman also can call a strange woman *kadih*, or *teman*, friend.

Two persons of the same marga, even though of different bëbëre, are considered very close relatives. According to their age-groups they are siblings, father and child, aunt and nephew (niece), etc. The relationship is not so close as blood relationship, but owing to marriage taboos more than a bare name. Sexual intercourse between name relatives is regarded as incest.²⁹

If the marga differs while the bëbëre is the same, the family relationship is still intimate but not so close. One still can be another person's brother (*senina*), but this relation is usually called *ërsënina sipëmërën*. A youth and a girl of the same bëbëre may marry only if they belong to different subdivisions of the bëbëre.³⁰

In Mandheling, in former times, there was no adat rule regarding incest between close blood relatives, this being too exceptional. Incest between those who called themselves *ibotoh*, sibling, was punished by death. If a girl fled with a man not actually related to her but of the same marga, the man was fined the amount of her marriage price and the girl condemned to celibacy or married beneath her rank and in a distant place.³¹

Totemism. The Batak still have strong indications of totemism connected with their sib organization. Certain sibs are believed to be descended from certain animals, said to belong to the sibs so that sib members are forbidden to eat their flesh. According to Neumann, the Southern Batak have the following totems:

²⁸ Joustra, 1926, 181.

²⁹ See section on Name-giving.

³⁰ Joustra, 1902, 388.

³¹ Willer, 221.

Tiger, panther, etc.	to marga	Babijat
Dog	to marga	Tompul
Ape, goat	to marga	Si Regar
Doves	to marga	Harahap
White buffalo	to marga	Nasution
Cat	to marga	Si Pospas (pus-pus)

These sibs are forbidden to eat the above-named animals because, according to many accounts, they are descended from the same.³²

The Karo Batak have similar food taboos and similar animals belonging to their marga. A portion of the Karo-Karo believe themselves to be descended from the daughter of a giant snake. Formerly, in the court of the divine ruler Singa Mangaradja, snakes were fed and considered sacred.³³

Cross-cousin marriage. A man is supposed to marry his mother's brother's daughter but may not marry his father's sister's daughter. The boru tulang (T) may be either the daughter of the mother's brother or the granddaughter of the mother's brother's father, but the former is preferred. While the specific cross-cousin relation, however, is called tunanang, the Toba extends this title to every woman he is allowed to marry.

Owing to the fact that no village statistics or family genealogies are available for the Batak,³⁴ it is impossible to state the frequency of cross-cousin marriage. According to Meerwaldt, this form of marriage is not frequent among the Toba. It would be mere chance, he claims, if a man has a daughter and his sister a son, and these two were sapi (rime) each other. There, if a man has a suitable boru tulang and does not marry her but some one else, he takes his tulang a present and tries to conciliate him.³⁵ There is no law about the matter, but a marriage between cross-cousins is considered the proper form. While I was told that in Angkola a man does not pay a lower marriage price for a cousin, Joustra claims that among the Karo the sum is less than would ordinarily be asked, in some cases no price being demanded at all.³⁶ Meerwaldt states the same for the Toba.³⁷

³² This is rationalization of the tradition that their forefathers actually were the animals and that, after their deaths, their souls were lodged in these animals. This rationalization with its implicit belief in re-incarnation however may be Hindu. The Batak themselves, unlike the Dyak, do not believe in re-incarnation.

³³ Volz, 9; Neumann, 309.

³⁴ My Angkola informant was unable to furnish me with even the names of his nearest relatives, because of the taboo on names which had prevailed in his early years at home.

³⁵ Meerwaldt, 1904, 202.

³⁶ Joustra, 1902, 388.

³⁷ Meerwaldt, 1904, 202. In such a case, however, the man has no choice but must take the oldest cousin without regard to beauty.

Marriage with the father's sister's daughter is treated under the criminal code. The Batak explain the prohibition by saying: "How is it possible that water can flow back to its origin?" However, in the third generation a man is allowed to marry a cousin on his paternal side. This is called *mambuwat si bere*, marrying a niece from the father's side. While at present all cousins of the opposite sex who are not daughters of the *tulang* are avoided like actual sisters, many Batak claim that formerly, when the people were still few in numbers, it was permitted to marry the father's sister's daughter. This type of union, however, caused the wrath of the gods, accordingly the custom was stopped.³⁸

While polygyny is practiced by the Batak, a man may not take two full sisters in marriage simultaneously, nor is it even permitted for two men of the same mother to take two full sisters as wives. This, the people say, would be like putting two whetstones on one ring.

Levirate and sororate. According to the rigorous patrilineal adat of the Batak,

a woman is as a child the property of her father, as a woman the property of her husband, and after his death the property of his male relatives.³⁹

Upon the completed payment of the marriage price, the woman becomes the property of her husband's sib. Thus, a woman whose marriage is regarded as complete is not only bound to her husband but, by his death, to his family, so that as a widow she is guilty of breaking the marriage bonds if she refuses one of his brothers, nephews, sons, or nearest male relatives to take the place of her husband. This refusal would lead to her becoming the slave of the village chief. In the absence of male blood relatives, the woman passes to a sib kin. If the inheritor does not wish to marry the woman, he has to support her.⁴⁰

Actually a woman is not inherited as if she were merchandise. In the first place, she can regain her freedom by repayment of the marriage price. Secondly, if she lacks the proper amount, she at least has the right to choose her husband's successor among his relatives. Finally, among the Toba, if a woman has a son she need not remarry within the family.⁴¹

Neumann gives the regulations of the levirate and sororate of southern Batak as follows:

At the death of a man his inheritance and also his wives go to the *waris* (Arabic,

³⁸ Neumann, 491; Meerwaldt, 1892, 206.

³⁹ Tideman, 134.

⁴⁰ Willer, 221; Joustra, 1926, 12.

⁴¹ F. Warneck, 542.

heir) who usually is the younger brother or the oldest son. If the younger brother is the heir and wishes to take the wife of his brother in marriage, she must comply. With sons (stepsons) the adat varies. Marriage with a stepson at the present day is forbidden, but formerly an eldest stepson could marry his stepmother when the father was dead. The actual mother either remains a widow or is taken by a younger brother-in-law. If there are no younger brothers-in-law or they will not have her, she can enter into another marriage with the consent of her son. In some places a father is waris of his son and is allowed to marry his daughter-in-law. If the waris does not wish to marry the widow of his testator, he can give her to one of his brothers. If these also do not wish to marry her, the widow is free to make her own choice with the consent of the waris.

If a woman dies childless and the full marriage price has been paid, the father is obliged to furnish another woman as substitute. The best substitute is one of the younger sisters of the deceased or another young girl of her kindred. The widower then pays a small sum in gold to his father-in-law. If, however, the woman had already given birth to a child, there is no obligation to do this. In this case the father-in-law at the birth of the first child would have sent his daughter a small present as a token that his son-in-law had nothing further to expect. The son-in-law would then return a small present to the father-in-law. Thus the *dudiur* (marriage price) purchases not only the wife but the wife and one child.⁴²

According to a general Batak rule the man who marries a widow assumes all the debts of the deceased husband. A widow or widower must wait a year before remarriage. Failure to do this is not punished, but the hasty party is ridiculed.⁴³

The actual and presumably oldest status of marital choice is summed up by the Toba word "poriban." A man should marry his poriban; that is, first his wife's younger sister, secondly, his mother's brother's daughter, thirdly, any other woman of his mother's sib and his own age class. All these women a man calls poriban and he is on a joking, or free, relationship with them. On the other hand, a man avoids his sisters, his wife's elder sisters, and his father's sister's daughters, all of whom he regards as sisters.

The younger sister of a wife also calls her brother-in-law poriban; a woman calls her husband's younger brother poriban; and two men whose wives are sisters call one another poriban.⁴⁴

Among the Karo the female child of the mother's brother and the male child of a father's sister are called *impal*. These two are *impal* to one another and should marry.⁴⁵

⁴² Neumann, 487. Among the Toba, it must be a male child (F. Warneck, 535).

⁴³ F. Warneck, 542.

⁴⁴ Meerwaldt, 1905, 20, 23.

⁴⁵ Joustra, 1907, under "impal."

Kinship usage. Batak avoidances seem based solely on the principle that all appearance of wrongdoing should be prevented. If a man and woman are alone together, or even exchange a few words, they at once come under suspicion. Incest between family members is a thing to be avoided at all costs, as it would arouse the wrath of the gods and lead to disaster. The taboos therefore are strictest between brothers and sisters (iboto). A brother and sister would be embarrassed at being together even when others were present. The rules regulating the actions of parents and children are less strict, but a father should not be alone in the house with his daughter nor a mother with her son. Joustra, who records these taboos, admits that most of them are very necessary.⁴⁶

In general, people of the opposite sex who may not marry are taboo to one another while those of the opposite sex who may marry and, especially, those who should marry are on free terms or on a joking relationship with one another. There is no avoidance or joking relationship between people of the same sex.

A father-in-law is very polite to his daughter-in-law. If he has anything to say to her he does it through a third party. He is not allowed to utter her name, just as he is not allowed to mention his own wife's. He calls her by her sib name or says "daughter of so-and-so." A daughter-in-law is also very polite to her father-in-law. She does not speak directly to him but through an intermediary. If the father-in-law comes her way, she steps aside. On the other hand, a girl is very friendly with her mother-in-law, who always calls her by her name. The greatest intimacy arises when the mother-in-law is also her father's sister.

A man and his mother-in-law are on avoidance terms but a man is very intimate with his father-in-law. If the father-in-law also is the man's mother's brother he is called a "second father." In fact, among the Batak, the bond between a man and his parents-in-law is stronger than the bond between a man and his own family.⁴⁷

In the same way a man avoids the wife of his younger brother and she avoids him. They may not speak to one another and if they pass on the way the man steps aside or, if this is not possible, the woman turns her back. A man also avoids his *bao*, the wife of the brother of his wife.

On the other hand, intercourse between proper cross-cousins is very free and they are said to stand outside the customary law. When they talk together or appear openly together on the market, no one has anything to say

⁴⁶ Joustra, 1902, 392.

⁴⁷ E-NOI, 120.

in opposition. They joke and exchange riddles or play on words in songs. Usually it is forbidden for an engaged couple to speak to one another in the house of the girl's parents, but cross-cousins are not ashamed to do this. They are purposely left alone together so that they may become better acquainted.⁴⁸

Likewise a younger brother is allowed to speak to the wife of his elder brother and joke with her, for when his brother dies the woman will become his wife. If the wife of the brother is also a cross-cousin, a still greater liberty in speech may be assumed.

Batak men and women stand in definite relationship to both the members of their own sib and to the members of the sib into which they marry. Persons of the same sib and age class are fictitious brothers and sisters. Thus in Angkola, men call all the men of the same sib and generation *samarga*, and all women of the same sib and generation *paribotoan*, sisters. In the Dairi dialect, people who belong to the same sib call one another *senina*, literally "mother members" or "members of common mother." Among the Toba, the expression *dongan saina* is used, but only for those in the same sub-*marga*.⁴⁹

While theoretically, at least among the Karo, a man should not marry a woman from his mother's *marga*, all the kinship terms seem in consonance with just this form of marriage, and it is considered proper that a man marry his mother's brother's daughter and a woman her father's sister's son. The Toba man calls the elder relatives of his mother *hulahula* or *bona ni ari* ("origin of his life," or "beginning of his days") regardless of whether he has married his cross-cousin or not. But if he married elsewhere, he has a secondary set of *hulahula* relatives from whom he has actually obtained his wife.

A man must always treat the *hulahula* relatives with the greatest respect lest he incur the wrath of the gods. One shows honor to these relatives by presenting them with food and by the way one speaks to them. If the mother's brother asks for a present or money, this must, if possible, be given, above all if one has married his daughter. If a man has had a fight with his own parents, he flees to his mother's brother.

Yet circumstances alter cases, rich *hulahula* being very much honored

⁴⁸ Meerwaldt, 1904, 21.

⁴⁹ Meerwaldt, 1892, 147, has shown that this should not be used as an argument in favor of a previous matrilineate, as urged by Wilken and later Dutch ethnographers. Among the Toba the expression *dongan saina* developed out of polygyny in the opinion of the Batak themselves. The sub-*marga*, which belong to the same chief *marga*, are of one tribal father but come from different wives of the same, and this is how they become differentiated.

and poor ones despised. In the latter case a man avoids marriage with his lawful cousin.⁵⁰

There remains a certain legal and social aspect to the relationship between two intermarrying sibs. In the Toba language when a man marries he becomes the anak boru (male daughter) to the father of his wife and all the male relatives, i.e., anak boru for the entire sib. The reciprocal term is tondong. Tideman⁵¹ has shown that these two terms express a relationship between the two sibs and that while all sib members of the man entering marriage are anak boru to the tondong, the most important is the one called anak boru sikahanan (kaha meaning old).

The tondong, besides having his anak boru, also has the male members of his own sib as attendants, and these he calls senina (of one mother, sada ina). Of his senina, the most important one is his senina sikahanan.

The anak boru is a hostage who has full responsibility for the actions of his tondong. If the tondong does not conform to the adat or does not pay his debts, the anak boru is responsible. If the anak boru sikahanan must pay a debt and cannot, he calls the other anak boru together, and they all share in the payment.

The only advantage the anak boru has, against the many disadvantages under which he suffers, is that at feasts and certain ceremonies he obtains some cloth and a part of the slaughtered animal. On the other hand, the anak boru must, at marriages and certain feasts, give a small sum of money.

The anak boru senina come together at all important family matters, as, for instance, a death. Then they discuss questions such as inheritance and succession to office.

Thus in Toba and Timur the anak boru relationship appears to have developed from the duties which a Batak nephew owes to his maternal uncle. Among the Karo, however, the choice of anak boru and senina seems somewhat different. Here also the senina is a sib brother, but the anak boru is not a member of the sib into which a man marries; he is usually a man's brother-in-law, that is, a member of the sib into which one's sister marries. According to Joustra:⁵²

As soon as a youth commences to take part in social and private life, that is, when he marries, he cannot be without an anak boru and a senina. The anak boru plays the chief part in the trinity. He corresponds to the Malay-Arabic word wakil, agent or representative; but is more useful. The a.b.s. relationship rests entirely on these grounds: (1) that for every legal transaction an account must be given; (2) that in

⁵⁰ Meerwaldt, 1906, 3.

⁵¹ Tideman, 96-98.

⁵² 1902, 394.

the absence of written records the matter must be witnessed as far as this is possible. Punishments, fines, stocks may be exacted from anyone of the three.

Every Batak ruler has his anak boru and his senina at his side to aid him in his governmental transactions. The marga from which men of the ruling marga (called bajobajo marga) take their wives is the boru marga.

Marriage and Courtship. In Indonesia as a whole there is wide divergence concerning the demand made on women for prenuptial chastity. Notwithstanding the generalization that such chastity is prized in patrilineal areas and not demanded in areas with the bilateral family,⁵³ even the patrilineal Batak are divided on this point. Among the northerners, especially the Toba, sexual freedom before marriage is taken for granted, while in the south the girls' houses often serve the special purpose of protecting the chastity of the inmates. Everywhere child betrothals save the virtue of young girls for their future husbands.

Usually among primitive people courtship and marriage have little or nothing to do with each other. The former aims at sexual gratification, is often aided by magic, and is entirely an affair between the two interested parties, who merely abide by the rules prohibiting incest and adultery. Marriage, on the other hand, is an exchange between families or sibs, is arranged by a third party, and the interested couple are, at the most, asked to give their consent. Among the Bataks, however, courtship frequently leads to marriage, especially where pregnancy occurs.

"There is no dainty cake on which a fly fails to sit," runs a famous Batak saying, and a Batak husband expects his wife to be a hard worker, but does not inquire too closely into her past. Boys and girls have many occasions for becoming acquainted. In the course of their work in the rice fields and at the time of feasts they mingle freely with one another. Full license is allowed the young couples, provided they come from different sibs and obey the proper rules of decorum. Among the South Batak these gatherings are called martandang, a name also employed for the visits the youths pay their girls in the women's communal houses. In Toba intercourse between the sexes is especially free and the youths and girls often have a form of competition in which four-line rhymed couplets are exchanged. Whoever loses has to pay a forfeit: the boy gives a piece of his clothing, a knife, or some other trinket, while the girl gives herself.⁵⁴

The youths use various means to win the favor of the young women. Courtship takes place within the village enclosure in the evenings and is

⁵³ E-NOI, 120.

⁵⁴ Joustra, 1926, 164.

called *tarutaruan* by the Toba. The young men sing erotic songs to the notes of a mouth-flute made from the stalks of large sugar palm leaves. Charms (*dorma*) also are employed as well as counter-charms taken as prophylaxis by the girls. For it is thought that successful love charms lead to unhappy marriages. Sacrifices have to be made to the love charms and sung over by the makers. Still another, more prosaic method of courtship is called *gambir di toru* by the Toba: the youth pays the girl for her favors but obtains a rebate on the marriage price if the romance culminates in a wedding.⁵⁵

If the young couple form a permanent attachment or if the young girl becomes pregnant, a marriage results. Thus, among the southern Batak, young girls of ten or eleven are called *budjing*, are considered of marriageable age, and sleep in the women's communal house, *bagas podoman*, under the charge of a responsible woman. All the unmarried men of the community have the right to enter a *padoman*. They come in small groups, with lights burning, and speak with the young women, offer them *sirih*, and remain until the chaperone gives them a signal to depart.

If the visit of one of the courters has been successful, the girl speaks about the matter with her parents and obtains their consent. Then on a following night the young man comes in front of the court of the *padoman* and calls out the name of the daughter of his choice. She leaves the house with him, and together they go to an empty *sopo* (communal house, without walls) where they spend the night together, according to the *adat*, in chastity. This elopement is called *mermai jam*. After this the young man, accompanied by his relatives, asks the elders of the girl for her hand in marriage, giving her relatives a pledge (*tanda*), such as an arm-ring, whereupon the couple are engaged.⁵⁶

While Batak girls may, as a rule, conduct themselves as they will before they become engaged, they must not become pregnant. If a woman, either as girl or widow, becomes pregnant without being able to marry her lover, all marks of womanhood, such as her hair, are taken from her, or she can be compelled to marry a man of lower rank. Because of the unusual license allowed young men in their treatment of women—it is not only allowed but proper that a young man should attack a young woman if he meet her alone—the women are given legal means whereby they can force their guilty lovers into marriage.

A proposal of marriage on the part of the girl is called *mahijompo*. This is done as publicly as possible. She takes the greater part of her belongings,

⁵⁵ Meerwaldt, 1904, 280-285.

⁵⁶ Willer, 175, Neumann, 239.

walks across the village in broad daylight, and climbs up to the house of the young man's elders. If she is allowed to remain a certain length of time, the young man must marry her. If the girl has no token of the man's guilt, such as a piece of his clothing, or if they have not been seen together by witnesses, she can be ejected. If she has proof, however, the man must either marry her or pay the bride-price without marriage. Few Batak men will pay the price and not take their purchase. Often a girl will risk ejection, since she has no proof, but is merely in love with a man upon whom she has happened to cast her eyes. Forcible removal in such a case is very much feared by a girl, since it lowers her repute and with it her bride-price.

There are, however, two forms of mahijompo. One is called *manaik* and is really an elopement form of marriage. Its purpose is to avoid the trouble and expense of a formal wedding and it is entered with the knowledge of the girl's parents or even after a long engagement. The word *manaik* merely means to mount up. In this case the full marriage price is paid. In *mandakit*, however, the parents of the girl are not consulted, the act often being against their will. The girl in this case usually is pregnant or fears abandonment by her lover. While the marriage price remains the same, only a small portion is paid off and the wedding is complete with the killing of a carabao.⁵⁷

Engagement. In Toba, as well as elsewhere among the Batak, girls are often sold into marriage before being actually born. The expectant father may be in debt and pressed for immediate money. The custom whereby a man receives the marriage-price or a portion of it and as yet has no daughter, is called *morboru tapang*. As soon as a daughter is born to him, the father of the groom comes with his presents. The village chief is invited, a meal is held, rice strewn on the heads of the boy and girl and both given favorable names. The pair are then considered engaged, and such contracts often lead later on to marriage.⁵⁸

Between adults engagements can be closed by the sending of the elders of the girl and the slaughtering of a carabao. More simply, engagements can be announced by the sending of a piece of cloth or a weapon. Marriage usually does not take place for a long time after an engagement. The youth during the period of the engagement is free to live with the girl. He helps the elders in the fields and is fed by them. This custom is followed so that (1) both parties can become well acquainted and accustomed to each other; (2) so that the youth will be certain that the girl will not give herself to another; and (3) in order that the youth, during this period, can perform

⁵⁷ Neumann, 486.

⁵⁸ F. Warneck, 535.

service in order to help pay off the marriage-price. A noble may employ a slave for this service, as well as to watch over the girl.

The reverse of this situation can also occur, the engaged girl being taken to live with the parents of the boy. This manner of treatment arises from mistrust on the side of the youth's family, who fear that the girl will give herself to other men, and if the marriage is very much desired by both families. Such a procedure also takes place only when the groom is too young to marry. The girl steps entirely into the position of daughter-in-law (*pa-ruma-en*) and performs the usual housework and rice stamping.⁵⁹

The bride-price. The bride-price is the sum paid by the man's to the woman's side. The south Sumatra name *djudjur* is the best known to Europeans. The Batak regard the payment as a legitimate purchase and call wives "things bought." Thus Toba, *na hu-tuhor*, my wife (that which I bought). Nevertheless Batak marriage has remained one of exchange, never fully developing into purchase. The bride-price is merely a token given by one sib to another, to be reciprocated in kind. The price a girl brings does not depend upon her age, beauty, or capacity for work, but equals that paid for the mother and grandmother.⁶⁰ The father thus redeems the amount he paid for his own wife. Possibly the earliest form of sib marriage among the Batak was one of exchange between two sibs or moieties, as is now the case between the two ruling sibs. Cross-cousin marriage then kept the two sibs exogamous and the bride-price maintained an even balance of trade between the moieties.⁶¹

In Toba the price varies from \$50 to \$1,000. The owners (*porboru*) of the girl get the main share. These are, in most cases, the father of the girl and his brothers. If the father is dead, one of the girl's brothers may be her *porboru*. But all the relatives, even the most distant, receive a certain share. The chief of the village and the village inmates receive a portion, thus showing that originally the price was divided among all sib mates. A smaller return present is made to the family of the groom.⁶²

As a rule, the bride-price is not demanded in whole; usually only half the amount is paid. If the two families get along well together, the remainder is never asked for. Cancellation of the debt, however, is unknown, and the grandchildren and great-grandchildren can be held responsible.

If the price be entirely paid, the groom has the right to demand that

⁵⁹ Neumann, 483, 484.

⁶⁰ Willer, 175.

⁶¹ Heine-Geldern (p. 894) has pointed out the fact that the two ruling sibs of the Batak originally may have been moieties.

⁶² F. Warneck, 532.

jewels and clothing be given his wife as dowry. If the woman is of noble birth, these are of considerable value and become the man's property. If the price is not fully paid, the children at death or upon divorce remain with the mother, who retires to her family.

These rules are not always obeyed. Sometimes no bride-price is paid because the two families are on good terms with one another. The woman's family then often turns to the man's for financial assistance and aid in the fields. If then, however, there is a divorce or the man dies, matters may be very complicated so far as the children are concerned. Some insist that the bride-price is as good as paid; according to others it is not, and the man's family have no claim on the widow and children. The usual settlement is to pay the bride-price without making deductions for the settlements made during marriage, so that it would, in fact, have been cheaper to pay the stipulated amount at the time of the wedding.

Occasionally a marriage is contracted without intention of ever paying the bride-price or its equivalent. This form of marriage is a disgrace both to the woman and her future female descendants who will thus also be forced to marry without the bride-price. A girl given away in this fashion is called *boru mangambe* by the Toba, "*mangambe*" indicating that her arms dangle as she walks. Such a girl may be suffering from an infectious skin disease, or she may be of noble birth yet has given herself over to a slave; or she may bear the consequences of adultery without wishing or being able to name the man.⁶³

A fairly common form of matrilineal marriage occurs among many of the patrilineal peoples of the Indies, such as the Batak, Gajo, natives of South Sumatra and Ambon in the Moluccas. The native Malay term for this form of marriage is *ambil anak*, i.e. "to produce children," this being perhaps the main purpose of such an arrangement. Where this form of marriage exists, the man lives with the family of his wife, pays no bride-price, and the children belong to the wife's family. Naturally, the service marriage is merely a temporary form of the *ambil anak*.

The most common form of *ambil anak* is when the father of the bride has already reached old age and wishes to take the bridegroom into his family as male inheritor. The son-in-law is then adopted into the house of his father-in-law, lives there at his expense, and works for him. If the son-in-law ever obtains sufficient money to pay the *djudjur*, after the death of the parent-in-law, he can obtain title to the land.⁶⁴

The bride-price was thus clearly an important factor in determining the patrilineal reckoning of the sibs. Lacking a bride-price and marriage

⁶³ Neumann, 473, 487.

⁶⁴ De Boer, 370.

remaining a matter of exchange between sibs or families, as it was occasionally among the Lampong people of Sumatra⁶⁵ and still is among many tribes of New Guinea, the sibs would have become either matrilineal or patrilineal depending on the ownership of the land, etc. When, however, the bride-price becomes too high, there is a tendency to evade the payment altogether; residence tends to become matrilocal; property is likely to remain in the hands of the bride's family; and, perhaps eventually, the sib will become matrilineal. While this last-named event has probably never taken place in Sumatra or elsewhere, matrilocal residence has been frequent enough among the Batak to change the sibs from territorial to genealogical units.⁶⁶

Forms of marriage. The following forms of marriage are listed by Neumann⁶⁷ for the south Batak and are general throughout the Batak country. In all cases, the bride-price or its equivalent must be paid.

- (1) After an engagement.
- (2) After the childless death of the woman; when the father or his heir (waris) is obliged to furnish another daughter, although nearly always a younger sister of the deceased.
- (3) Through inheritance or succession.
- (4) Through abduction.
- (5) After the free-will coming of the girl to the man of her choice (mahijompo, maniompo).
- (6) After "dishonorable treatment," when the girl has the right to force her lover to a marriage (manaik).
- (7) When the dishonorable treatment brings visible consequences or becomes public. The girl then can go to the house of her lover and force him into marriage (mandakit).
- (8) After violation (mamintui).

Abduction is a regular form of marriage according to the adat. Its main purpose is to avoid the expense of a wedding. The bride-price must be paid in full, however; one-half at once and the remainder in installments. Marriage in the regular form among the nobility may almost equal in cost the

⁶⁵ Among these people, writes Marsden, 259: "In lieu of paying the jujur, a barter transaction, called libei, sometimes takes place, where one gadis (virgin) is given in exchange for another; and it is not unusual to borrow a girl for this purpose from a friend or relation, the borrower binding himself to replace her or pay her jujur, when required. A man who has a son or daughter gives the latter in exchange for a wife to the former. The person who receives her disposes of her as his own child or marries her himself. A brother will give his sister in exchange for a wife or, in default of such, procure a cousin for the purpose."

⁶⁶ See p. 21.

⁶⁷ Neumann, 474.

returns from the bride-price. It involves not simply the feast, but the parents of the girl must also furnish her with clothing, decorations, and house utensils. Thus both sides gain by abduction—the parents of the youth delay giving half the bride-price, and the parents of the girl avoid giving most of the dowry.

When an abduction is legally performed the youth brings the girl to a town (kampong) other than his own, and she leaves some token behind, such as a piece of cloth under her sleeping mat, to show that she has gone of her own accord. The youth sends word to the parents of the girl that he has abducted her and they pretend to be very angry, but the wedding goes through as a matter of form by the simple killing of a carabao.

Sometimes the elders of the girl are actually opposed to the match while those of the youth desire it. Even then the matter is legal, provided the difference in rank is not too great. The elders of the girl must yield to save her reputation. The initial payment on the bride-price is reduced then, but not to half.⁶⁸

Thus actual capture-marriage does not exist among the Batak, nor is the abduction-marriage in any sense a survival of capture-marriage; it is rather an elopement in our sense of the word. Marriage by violation is allowed in only exceptional cases. When a radja, for example, is in love with a woman beneath his rank and she refuses his offer, he is allowed to violate her. However, he must pay the bride-price and marry the woman. If he wrongs the woman in either of these respects, he is liable to have his subjects swear off their allegiance and complain to another radja. Likewise, if a widow shows aversion to her waris, he is allowed to violate her after having informed his radja of his contemplated action.⁶⁹

Normally marriage takes place when the youth is about eighteen and the girl fifteen. However, the girl can marry as young as ten, i.e., before the age of puberty. The man uses a mediator for the proposal, as it is not thought proper to make it directly. The girl would be ashamed to give in at once, and she first investigates the character, worth, and appearance of the suitor. Upon yielding to the pleas of the mediator, she says: "If so-and-so wishes to make use of the daughter of a poor man, let him ask my parents." This is taken as a sign of her consent. The young man then goes to his sopo (communal house) and seeks a dream.

He takes a separate sleeping-place, apart from the other youths, uses a pillow of rice, and prays to his ancestors and the gods for a guiding dream. To dream of harvesting rice or drinking clear water is considered a favorable

⁶⁸ *Ibid* , 484.

⁶⁹ *Ibid.*, 489.

omen. It is inauspicious, however, if he dreams that he is tilling the ground or climbing a mountain. In the latter case he avoids the marriage. Some men go to a soothsayer to see if their names fit with their brides. In order to produce children the names of married couples and, therefore, the *tondi* (souls) of the couples, have to be in accord.

If all the omens are auspicious, the man gives his future father-in-law and the daughter presents as pledges. The bride-price and the date of the wedding are then arranged. The son-in-law brings meat for the wedding, pays the bride-price, and takes the bride back to his village.⁷⁰

In all forms of marriage, excepting violation and inheritance, the choice of the girl is evidently the primary factor. The bride-price counts for but little, as a marriage will not be delayed if this cannot be paid at once. A Batak girl, when marrying, is supposed to be as favorably inclined toward the family of her husband as toward her spouse himself and therefore not to be averse to a second marriage within the family.

The wedding ceremony. The wedding ceremony is performed by the *radja*. As a part of his discourse he says: "If the man dies he will be replaced; if the woman dies she will be replaced." As a sign that the bride and groom from then on belong together, they must eat rice, which has an egg in the middle, out of the same plate, sit on one mat, and allow themselves to be wrapped in the same mat.

Eventually the groom takes his bride home to the house of his parents. On the way she gives vent to her assumed sorrow, singing her songs of lamentation with deep sobs and tears.

After the ceremony the couple are taboo (*rěbu*) for four days. This is their honeymoon. During this time they must not work (with the exception of stamping a little meal), nor go to the rice field or cross a river.⁷¹

The actual marital status of the Batak is not established until the first child is born. Before this time it is not proper for them to appear in public together, and they would be ashamed to be seen talking or walking with each other.⁷²

While marriage is usually patrilocal, within a year the married couple must pay a visit to the father of the woman. If the pair are not cousins, the mother's brother (*tulang*) has the right to demand that they visit him also and fulfill the *adat* requirements. Presents are exchanged between the wife and the *tulang* to show that the marriage bond is not broken.⁷³

⁷⁰ Meerwaldt, 1904, 287-291.

⁷¹ Joustra, 1902, 395.

⁷² Meerwaldt, 1905, 111.

⁷³ Neumann, 474.

Polygyny. The Batak have no law concerning the number of wives, but owing to their cost the commoners rarely have more than one. In Toba the chiefs have from three to five wives, never more than eight. The first wife has certain rights over the others. Sometimes a Batak will take a second wife at the urging of his first, who can bear no children and would rather have another woman shared by her husband than be divorced. There are sufficient women in the Batak country to permit the chiefs to have several wives for, in former days, many of the men were sold into slavery and others migrated to East Sumatra or the mainland.⁷⁴

Pregnancy. A pregnant woman has to observe certain taboos. She must not, for example, sit long in the doorway, nor be present when another woman gives birth to a child, and she may use no remains of food nor take food from another. She is not allowed to loosen her hair, nor her husband to cut his. No fire must be taken from her hearth for the purpose of kindling other fires. The husband is not allowed to kill any animals. During the last months the husband will not leave his wife alone at nights, for it is during this period that she is plagued by bad dreams. The gods (*dibata*) or their emissaries visit the unborn children then and give them their future lots in life.⁷⁵

Childbirth.—When a child is to be born, all the men are required to leave the house, the patient being assisted by women only. The mother gives birth to the child in a sitting position.

After the birth the placenta (called *anggi*, younger brother or sister) is watched for and cut with a sharpened piece of bamboo. It is buried in the space beneath the house, and upon it is supposed to hang the welfare of the child, containing as it does a portion of his soul (*tondi*).⁷⁶

At a difficult childbirth various kinds of sympathetic magic are used, such as untying knots, opening doors, etc. If the woman dies, her body is not given honorable burial but is thrown under the house and burnt. According to the Batak belief, such a woman committed a serious crime and her *tondi* (soul) no longer wished to remain with her.⁷⁷

After the delivery the woman is laid with her back to the fire and kept warm for a couple of days. During this time the fire is taboo. In the southern Batak country, as in Atjeh, a steam bath is used. The mother and child

⁷⁴ *Ibid.*, 228; Junghuhn 132. F. Warneck, 542.

⁷⁵ Joustra, 1902, 406

⁷⁶ J. Warneck under "mate mangnagkat."

⁷⁷ Meerwaldt, 1905, 117; Joustra, 1902, 406

are placed for fifteen or twenty days in a kind of oven, under which damp wood is placed.

The Karo and the Toba of Central Batakland have a custom called *manuruhon api ni anduhur*, "the bringing away from the fire of the turtle-dove." On the fourth day after the birth of the child, the mother takes it on her left arm and a stick of burning wood from the fireplace in her right. She extinguishes the wood in the water and throws it into the shrubbery. Then she takes a bath, washes the child, and carries it in a cloth back to the village.

Names. Sometimes a child is named on the day it is taken to the river for its first bath, but often the name-giving is delayed, the Karo calling the boy *si tangat*, and the girl *si boru*. Usually, however, a name is given on the fourth or eighth day.

A boy is named by the mother, the mother's brother, or the mother's brother's wife. The father's sister names the girl. The father or mother give second and third children their names. All names naturally begin with the article "si," and the same names are given both sexes. It is taboo to name children after blood relatives, living or dead. Rice kernels may be used as lots to determine lucky names or, again, the child may be allowed to choose its own name. In this case the name-giver slowly pronounces a long list of names, and if the child laughs after one of them it receives this name.

Each Batak actually has two names: a proper name and a *sib* name. The latter is always asked for at greetings. Thus *Si Sampei* is the name of a Karo man who belongs to the sub-marga *Bukit*. Therefore the man is called *Si Sampei Bukit*.

Children of chiefs receive other names than commoners. As, for instance, *Si Radja Balas*, "the chief." *Si Anggur*, "he who is everywhere known"; *Si Tager*, "fear or anxiety, such as thunder causes." Circumstances occurring at birth sometimes determine the choice, for instance, *Si Perang*, "war." Sometimes animal names are given, but without implying totemism, as in the case of two brothers, *Si Gadjä*, "the elephant" and *Si Beruwang*, "the bear." Opprobrious names may be given to ward off bad luck, such as *Si Bengkala*, a variety of monkey. Special names are believed to obtain good luck, as when a sick child is named *Si Bolat*, "round and fat."

If the parents had previously lost children, a child often is given no name at all. When older, he either picks out a name for himself or is called by a nickname which by custom becomes his real designation. Examples of such nicknames are: *Si Gopok*, "fat," *Si Keling*, "dark as a Singhalese"; etc.

People change their names as often as they wish, and for the same reason as in Polynesia, viz., sickness. If a child is sick the parents will change

its name in the hope that it will recover. Notice must be given to the people of the village.⁷⁸

Teknonymy. This custom is unquestionably due to the rigid taboo on the utterance of personal names. Neumann⁷⁹ ascribes the avoidance of names to ghost fear, but Tideman⁸⁰ writes that there is an adat against the mentioning of names enforced by law. In Timur it is forbidden, even when alone, to pronounce one's own name or that of one's elders loudly. If a man is heard infringing this law, criminal accusation can be brought to the radja by the witness.

Now while it would be highly improper for a child to mention the name of his parents or, as we shall see, for a subject to mention the name of his radja, there is no objection for a person of higher status to mention the name of a person of lower age or status. In the same way, it is improper for a person to mention the name of another of the same status. As a consequence the inconvenience of the situation can be avoided either by the use of relationship terms or by reference to the paternal or grand-paternal status of the individual in question.

A Batak will not tell his own name or that of his father; this would cause misfortune. If one asks a Batak his name he will not answer but will nudge one of his companions to make him give the information. Above all he will not give the name of his grandfather (ompu). If one asks a woman the name of her husband, she will not answer but, pointing to her child, she will reply: "Ama-ni-on, father of this one."

Ama-ni and Ompu-ni, father of, and grandfather of so-and-so: all proper names begin this way among the Bataks. They call themselves after their sons and grandsons. The name Ompu-ni is the more honorable, and therefore every Batak longs to have it. Sometimes even young men acquire this title by the following method. A man may choose for his young son a grown-up woman and the son not as yet being old enough to take care of his manly duties, the father will intercede in the marriage and presently have "grandchildren."

When a man is a father and has taken the title of Ama-ni, it would lead to war to call him by his own name.⁸¹

Among the Toba the word goar means name. However, one never asks a person his name directly, by saying: ise goar, "What is your name?" Instead one says: ise pang-goar-an-mu, "What is the name of the child after whom you are called?" The man then answers, for example: Si Dangol pang-goar-an-ku, "his name is Ama ni Dangol." A father and mother name

⁷⁸ Wijngaarden, 310-324.

⁷⁹ Neumann, 226.

⁸⁰ Tideman, 178.

⁸¹ Hoëvel, 435.

themselves after their first child, and if it dies, after the following. If the first child is a girl and the second is a boy, the father calls himself after the son.⁸²

Not only is it forbidden to mention the name of superiors, but their names remain taboo after they are dead. It may even be forbidden to use words containing syllables which were part of the name of former radjas. This rule here, as among certain tribes of North America and Northern Asia,⁸³ causes changes in the language. Thus in Tanah Djawa, a district in Timur, it is forbidden to use any word which begins or ends in "hor." Formerly a radja called Horpanaluan lived there. One must therefore call a carabao (horbo) si ranggas. One dare not use the common word tuhor for "buying" but boli, instead.⁸⁴

Treatment of children. In former times children were taught mainly by imitation of their elders. Only those destined to become priests (datu) received a more formal education, especially in reading and writing. In Toba, however, all the boys and girls learnt enough of writing to exchange love-letters, which were written in native characters on pieces of bamboo one and a half inches in width and one-half to one foot in length.

Children are seldom punished when they are very young. A parent would have to be beside himself with rage before he slapped, cuffed, or dragged a child over the ground. As everywhere in Indonesia, there is fear that the child might lose its tondi (soul). A young girl is seldom punished and then always by the mother, not the father. When grown up, she may be much more roughly treated, especially if she refuses to marry a man of the parents' choice, or follows a man against their wishes. Then she may be cursed, allowed to starve, or whipped with rods.

A girl who marries and runs away from her husband is treated still worse. If she persists in her determination to leave her husband, the father must pay back the bride-price and the costs of the wedding. In order to make her change her mind the father may beat her with rods, drag her by the hair, or put her in the stocks. Or, again, he may bind her hands and put biting ants on her back. If the husband agrees to take the girl back—which he does by accepting a small present from the father—and the girl promises never to run away again, she is allowed her liberty and loaded down with presents. The punishments which may be inflicted by the father or seller of the girl are so severe that many girls have taken their lives rather than endure them. Often, where a girl threatens to take her life, a father

⁸² J. Warneck, under "goar." Wijngaarden, 324.

⁸³ Lowie, 89.

⁸⁴ Tideman, 178.

will pay the fine even if he has to borrow the money. The suicide of his daughter would occasion much unfavorable gossip at his expense.⁵⁵

Puberty ceremonies. Puberty ceremonies are of little importance for either girls or boys in western Indonesia and are probably in the nature of survivals, as in Polynesia. In none of the accounts I have read of western Indonesia is mention made of any restrictions placed on girls at their first or any subsequent menstruation; nor did I secure any evidence thereof in Mentawai. The Toba Batak call a menstruating woman *dioro bulan* (moon) and there is a folk belief that the moon is her lover.⁵⁶

One puberty ceremony for boys similar to that I have observed in Niue and Samoa is connected with the hair. The hair of a Batak boy cannot be cut before the canine teeth have appeared, and then it cannot all be removed, but a lock must remain standing. This is done for fear of losing the soul (*tondi*).

The filing of teeth (*kiku*) takes place about the time of puberty or a couple of years earlier for boys, while the teeth of girls are filed when they reach approximately the age of seven. The mutilation is limited to the incisors.⁵⁷ Boys have half the crown cut away with a fine file and girls have the entire crown removed. On the same day the mutilated teeth are rubbed with *badja*, a tar stuff made from the smoke of wood, to make them appear black. After the boys and girls have had their teeth filed they are considered grown up and are allowed to chew betel.

Among the southern Batak there are certain professional teeth filers called *baon ipon*. Girls are operated on earlier than boys, for had they already menstruated it is believed the filing operation would cause sickness to the filer. The reason given for the operation is that a person with unfiled teeth resembles a dog.

After a boy or girl has had his teeth filed he is taboo for seven days or longer, or at least until the pain stops and the wounds heal. He is not allowed to appear in public or ask for *sirih*.⁵⁸

Circumcision is an ancient custom among the Batak, as among many

⁵⁵ Meerwaldt, 1905, 120.

⁵⁶ J. Warneck, under "*dioro* "

⁵⁷ Filing and blackening of teeth is common among the people of Indonesia. Wilken follows Uhle and Ploss in the belief that filing is a substitution for knocking out of teeth as a puberty rite; and blackening of teeth, to indicate their loss, is a substitution for filing. In Oceania the knocking out of teeth at puberty is practiced in Australia, parts of Melanesia, among certain peoples of Celebes, and in Formosa. In *Engano* a woman knocks out two of her incisors at the time of marriage, 'in order to show that she is no longer free, but the property of another.' (Wilken, *Iets over de Mutilatie der Tandem*.)

⁵⁸ Joustra, 1926, 163; Neumann, 460.

other primitive Indonesians, and is called batotak. It is performed on boys in secret. The prepuce is split gradually by squeezing the upper part between two pieces of bamboo. It is no longer a puberty rite nor is it required for all males. No one, however, who is uncircumcised is allowed to kill chickens. Girls are incised.

Among the southern Batak there are two methods of circumcision, an old one in which the prepuce is split and the Mohammedan one in which it is cut off. Girls are incised in this region also. The malims (Mohammedan preachers) perform the act on boys, but girls are still incised by women. The girls are operated on before the seventh year, the boys at puberty. A meal is given at the time of the circumcision, and the relatives are invited. The datu (Batak priest) or malim who performs the operation is paid. Those operated on are taboo for seven days and cannot appear in public.⁸⁹

Divorce. Nowhere does the form of social organization show influence in Indonesia more than in the laws of divorce. In a strict patrilineal society divorce can only be obtained at the will of the husband and then is of exceptional occurrence, since the husband would not wish to lose the bride-price. An exception is often made in the case of adultery. Thus in Buru and Aru, if the wife commits adultery the man gets the bride-price refunded. In the sibless or bilateral families of Indonesia divorce is frequent,⁹⁰ and where there is a bride-price the rule almost everywhere holds that it must be paid back if the fault lies with the woman and not paid back if it lies with the man. The village or family head checks too frequent divorces. Among matrilineal people, like the Minangkabau, there is no bride-price and divorce is very frequent, being obtainable at will by either party.⁹¹

A difference also occurs between the patrilineal and matrilineal peoples of Indonesia regarding the disposition of the children after a divorce. Among strictly patrilinear peoples, such as the Batak and the natives of Nias, all the children remain with the father. An exception is furnished in Buru, where the woman sometimes obtains a daughter as helper. Among sibless people the children are divided between the parents at divorce, and among matrilineal peoples they naturally remain with the mother.⁹²

Opinions are divided among the various authors regarding the possibility of divorce among the Batak in former times. Joustra,⁹³ the foremost authority on Batak adat, claims that the old adat knew no divorce and that

⁸⁹ Joustra, 1926, 164; Neumann, 460.

⁹⁰ In sibless Mentawai, however, divorce is almost unknown due to the fact that every married man is priest of the house altar (Loeb, 1928a, 433).

⁹¹ E-NOI, 120.

⁹² E-NOI, 120.

⁹³ Joustra, 1926, 12.

in no case could the woman choose a divorce. In the same way Van Ophuijsen⁹⁴ writes of the South Batak that apart from very unusual circumstances marriage was for life. Both authors referred probably to the fact that it was almost impossible for a woman to obtain a divorce but, presumably, a man could always send his wife back to her people if he had grounds and was willing to lose the bride-price.

Willer wrote in 1846 of the Mandheling Batak:

Neither a woman nor her relatives can demand a divorce, even if they are willing to pay back the bride-price. A woman however can request a divorce from a man upon the repayment of the bride-price or part of it. Impotence in the man gave the woman the right to separate from him or go to one of his relatives. The man can repudiate his wife and send her back to her people without recovering the bride-price. He can also repudiate her without sending her back but in this case he is obliged to furnish her a separate dwelling, food and clothing, and she must work for him.⁹⁵

Warneck states this for the Toba:

Properly speaking there can be no divorce after the bride-price has been paid. This completes the purchase transaction which afterwards cannot be altered. However, (1) a man may be insulted by his wife and send her home. Then he recovers the bride-price after she is sold again. He loses the cost of the wedding and is forced to make a considerable present to the relatives of the woman. (2) Where the woman runs away, the man recovers the bride-price and the cost of the wedding. The relatives put the woman in the block.⁹⁶

Junghuhn says practically the same for the Toba in 1847, when their customs were as yet untouched by white influence:

Divorces seldom occur among the Batak, but they may occur in connection with a special adat, called sei-sei. If the man wishes to drive away his wife nothing is said about the matter, for he has already paid for her. The wife in this case has nothing to get and the children go to the man. If, however, the woman wishes to separate from the man, then the adat sei-sei comes into force. By this adat the parents of the woman are obliged to give back the marriage price of six yards of cloth, slaughter a carabao, and give a feast. The man keeps the children. This makes divorce almost impossible for the woman.⁹⁷

Joustra has described the ceremony of divorce as it took place among the Karo as follows:

At the time of a divorce a public meal is given. This is given by the guilty party as

⁹⁴ Van Ophuijsen, 42.

⁹⁵ Willer, 182.

⁹⁶ F. Warneck, 535.

⁹⁷ Junghuhn, 132.

a form of conciliation. If no conciliation follows, however, this meal then becomes a method of loosening the bonds of matrimony. After the end of the meal, the custom of kah-kah bohan takes place, i.e., a bamboo-cooker is cut in two and thrown into the air, while the assembled people are told about the divorce. If the two halves fall down alike, either hollow or concave below, this is taken as an omen that conciliation is not ruled out. Otherwise divorce is irrevocable.⁹⁸

Naturally a woman cannot divorce a man because of adultery and a man is absolutely free, provided that he keeps away from married women. A woman can be made to pay for adultery with her life.

Position of women. The position of women is perhaps the best illustration of the wide variation between the "patriarchate" in fact and in theory. Theoretically she is bought and sold as a carabao or some inanimate piece of property over whom the owner has absolute rights and whom he refers to as "that which I have bought." Being a piece of property herself, she has no right to own any possessions, not even her ornaments, clothing, and live stock (chickens), as among the patrilineal people of Nias.⁹⁹ Writing from this viewpoint Neumann says:

Women are purchased and become the complete property of the men. If a woman is guilty of adultery, her husband can slay her. He is only obliged to furnish her with the most necessary things, as a house, clothing, and food. But even this latter she must provide for herself, the husband only providing the field. The man can mistreat his wife, even treat her as a slave so that after his death she will be included in the property he leaves. The only restriction which the husband has to observe is that he is not allowed to sell his wife outright. Yet he is allowed to pawn her as a pledge for his debts.¹⁰⁰ The greatest right that woman has, and her only right, is that her husband cannot withhold sexual intercourse from her.¹⁰¹

Yet even Neumann does not depict the position of woman as entirely in keeping with her status as a piece of merchandise. As we have seen, the younger women have the utmost freedom before marriage, as is general among the bilaterally reckoning Indonesians. In strict keeping with patrilineal reasoning the bride-price of a woman would suffer were she not a virgin before marriage. Thus in Nias a girl who is not a virgin or a woman who is a widow sells at half price.¹⁰² Then, again, it is more often the woman who chooses her future husband than her parents, the bride-price being of

⁹⁸ Joustra, 1902, 402.

⁹⁹ Schröder, 419.

¹⁰⁰ Naturally, in this and in other respects, the position of the Batak woman has been bettered by Dutch influence and control.

¹⁰¹ Neumann, 463.

¹⁰² Loeb, 1928b, 144.

less importance than her inclinations. Neumann is referring to this divergence in status between the unmarried and the married woman, between the house drudge and the social head of the house, when he says:

The lot of a Batak woman is a peculiar one. One moment she is the most abused, the next the most protected, now she is bent under the hard yoke of the adat and then, again, she becomes arbiter in the circle of her house companions and nearest relations. On the one hand she is treated as a commodity for sale, on the other she not infrequently stands forth, adorned and jeweled.¹⁰³

Even the Batak themselves do not take their own concept of woman as a purchasable commodity seriously, and, when they withhold part of the bride-price, they sometimes say: "She is no carabao that she must be bought."¹⁰⁴ Furthermore, while theoretically, married women have no redress from harsh treatment at the hands of their owners, practically they are as well protected from actual physical harm as their civilized sisters.

The adat does not see in women objects which one can treat arbitrarily but the entire population is made responsible for the protection of women. Wounding, shameless conduct, and insult to them are heavily punished. They can, in fact, demand satisfaction for the least injury done them. In time of war the women are always spared. The missiles of the enemy are not allowed to enter the bathing place of the women.¹⁰⁵

The ultimate position occupied by women in any society depends on their part in the economic life of the group and not upon real or fictitious rules of superiority implied by the terms "matriarchate" and "patriarchate."¹⁰⁶ The real work of the Batak women begins only after they are married, the drudgery after they have children. Hence the seeming contrast between the lives of the unmarried and the matrons.

A woman gets up early in the morning, before it is light, and begins pounding the rice. Then she goes to the river to bathe and fetch water. Following this she cooks, then feeds the pigs, and finally proceeds to the fields, where she has the most work to do. If diligent, she comes home only toward dark. Then she again fetches water and bathes, feeds the pigs, and pounds rice, cooks, and, after eating, prepares food for the pigs. This work is not too much for her while she is still young, especially since women are usually physically better developed than men. But after she has been married and has had children, whom she must carry to the field with her

¹⁰³ Neumann, 239.

¹⁰⁴ Joustra, 1902, 403.

¹⁰⁵ Neumann, 250.

¹⁰⁶ This point is well discussed by Lowie, chap. 8.

and whom she suckles for about three years, she ages rapidly under the strain of the hard work. It is only in the cultivation of wet rice with the plow that the man does the hardest part of the labor. Otherwise he passes the time in hunting, fishing, roving, lounging in the sopo (communal house) or on the alaman (the open portion of the village), holding harangues or chewing siri.¹⁰⁷

The Batak and the people of Minangkabau are neighbors sharing the same civilization and economic conditions. Hence whatever difference there may be in the legal status of the women of the two groups, their actual position in the everyday activities is very much the same. The wives of the radjas among the Batak had even one advantage denied the Minangkabau women—they were able to have slaves perform the menial tasks of the home and the field.

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¹⁰⁷ Neumann, 245; Joustra, 1902, 403.

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THE ANTIQUITY OF MAN IN SOUTHWESTERN ASIA¹

By HENRY FIELD

THE geographical location of southwestern Asia is of paramount importance in the study of the distribution of prehistoric man. This area is almost completely bounded by water. To the west lies the Mediterranean and the Red sea, and to the south the Arabian sea and its northern extension, the Persian gulf. On the northern side the Black sea is the boundary, while to the east the Caucasus mountains and the Caspian sea form a definite geographical barrier. The western borders of Afghanistan and Baluchistan are bounded by mountain ranges, and the only region through which a general migration could have taken place lies in northeastern Persia.

In this paper I am going to deal primarily with the area covered by North Arabia and its adjacent territory, including Syria, Palestine, Trans-Jordan and Iraq.

This small portion of the world's surface, according to the earliest historical references, has always been associated with the Garden of Eden—the birthplace of the human race.

I shall commence by setting forth briefly the results of the Field Museum North Arabian Desert Expeditions, since this region forms one of the focal points. The North Arabian Desert lies approximately between latitudes 30° and 33° north, and longitudes 36° and 42° east of Greenwich. In general outline, the section of the country between the Jordan valley and the river Euphrates consists on the west of high rugged hills, separated by narrow boulder-strewn stream-beds or wadis, which bear witness to the torrential character of the seasonal rains. The hillsides are barren and almost destitute of vegetation, with the exception of grass, which when watered forces its way through the forbidding flint and gravel-covered slopes. The steep escarpments near the Jordan valley give way to more gradual slopes, although Amman, on the Hedjaz Railway, is situated about 2500 feet above sea-level. One hundred miles to the east the altitude drops about 500 feet, and the crest of the watershed, 3000 feet above sea-level, lies midway between Amman and Ramadi on the Euphrates river.

To the east of the Hedjaz railway stands the austere basalt-strewn region known as the Harrat-ar-Rajil. This lava bed is about 150 miles in length and 100 miles in width. Beyond the lava bed, the high desert or wilderness (as I prefer to term it) consists of low rolling flint and gravel-covered hills separated by small wadis.

¹ Paper read in outline before the American Oriental Society, Chicago, 1932.

The general lack of water, except for isolated wells, combined with the rugged nature of the basalt country on the west have caused this territory to be known as a geographical migratory barrier. Until the latter part of 1925 it was presumed that ancient migrations from Asia to the African continent must have taken place through southern Anatolia and Palestine into Egypt.

Since the winter of 1925 the entire question has been revised and from the recent archaeological survey² it can be stated definitely that man in various prehistoric phases of culture migrated across or lived in this great stony wilderness. For example, in the gravels near Bayir Wells, which lie about fifty miles northeast of Ma'an, the writer collected water-worn and rolled flint implements of Upper Chellean type. These artifacts, including a rolled *coup-de-poing*, were excavated from the face of a gravel bed at a depth of eleven feet, six inches below the surface. This was the first time that implements of lower palaeolithic type had been found *in situ* in this region. The great traveler, poet, and master of English literature, Charles M. Doughty,³ gives the following instance of his discovery of chipped implements in the year 1875:

Walking in the torrent bed at Ma'an my eyes lighted upon,— and I took up, moved and astonished, one after another, seven flints chipped to an edge; we must suppose them of rational, that is an human labour. But what was that old human kindred which inhabited the land so long before the Semitic race?

He also adds,

I have found in it [the gravel bed near Mt. Seir or Jebel Sherra] such wrought flint instruments as we have from some river and lake gravels and loams of Europe.

Several days after leaving Bayir Wells I also collected several rolled flint hand-axes in this same stream bed—the Wadi Arabah, which meanders through the great city of Petra—"the rose-red city half as old as time."

It will not be necessary to add in detail the various discoveries of several hundred prehistoric surface sites in North Arabia. As a general summary let me add that flint implements of lower, middle and upper palaeolithic types were collected in quantities from sheltered positions in numerous localities scattered throughout this entire region.

As might well be expected, neolithic types of implements also occurred, and in this connection it must be stated that the flint implements from the

² Field Museum North Arabian Desert Expeditions, 1927-28.

³ Travels in Arabia Deserta, Vol. I, p. 35. London, 1921.

lowest levels of "Y" trench at Kish, nearly sixty feet below the original surface of the mound, are remarkably similar in technique to the neolithic forms found on the surface of the high desert to the west.

Let us now review briefly the palaeolithic discoveries in the adjacent or neighboring countries.

In Syria flint implements of various palaeolithic and neolithic types have been found and there is every reason to suggest that this modern political division has been occupied by man since the earliest times.

On the surface of a hillside near Dera'a, I collected a number of typical Acheulean and Mousterian implements, all of them bearing a light-colored patina. Mr. Louis Charles Watelin, Field Director⁴ of the Kish excavations, collected flint implements of palaeolithic and neolithic types on the surface of the desert between Mosul and Aleppo. Near Karyatein Mrs. Ernest MacKay found a beautiful Acheulean hand-axe, which is now in the collections of Field Museum.

In Palestine near the Sea of Galilee, Mr. F. Turville-Petre⁵ excavated in June 1925 a fragmentary skull of Neanderthal type, associated with a middle palaeolithic culture and an extinct fauna. The twenty-two species of mammals amongst the fossil remains dug from this stratum indicate that at that time the climate of Palestine was more favorable than at present.

In the river deposits of Palestine, Chellean and Acheulean implements have been collected, proving thereby that this region was inhabited long before the Neanderthal hunters of the Robbers Cave near the Sea of Galilee.

Another discovery of paramount importance was made in the spring of 1928 by Miss Dorothy Garrod in the cave of Shukbah on the slopes of Mount Carmel. From stratigraphical evidence obtained, the first inhabitants of this cave were culturally Mousterian and racially Neanderthal. The upper strata contained skeletons of neoanthropic man,⁶ who was in a developed Capsian cultural phase. These hunters were ignorant of pottery or agriculture, and according to Sir Arthur Keith,⁷ they were dolichocephalic in type, resembling in their physical dimensions the predynastic Egyptians.

In the spring of 1929 Miss Garrod continued her investigations in the cave of Athlit at the foot of Mount Carmel. The stratigraphical section excavated shows a Mousterian level at the base superimposed by a thick Middle Aurignacian stratum, overlaid by Upper Capsian, Mesolithic and

⁴ Since the season 1926-27.

⁵ *Researches in Prehistoric Galilee*, London, 1927. (Issued by the British School of Archaeology in Jerusalem.)

⁶ Called Natutians after the Wadi-en-Natuf in which the cave is located.

⁷ *New Discoveries Relating to the Antiquity of Man*, p. 210. London, 1931.

Bronze Age levels. Human remains included a Neanderthal molar tooth, two Middle Aurignacian lower jaws, and a series of mesolithic burials. Sir Arthur Keith states that the later dwellers at Athlit were of the same physical type as the Natufians of Shukbah.⁸ The Neolithic of Palestine and Syria occur sporadically over a wide area, and even within a few miles of the site of the manger of Bethlehem numerous flint implements have been collected.

According to a cable received by Professor George Grant MacCurdy from Theodore D. McCown, Field Director of the Joint Expedition of the American School of Prehistoric Research and the British School of Archaeology at Jerusalem, skeletal remains of seven adult Neanderthals have been excavated near the foot of Mount Carmel. This important discovery will throw a flood of light on the physical characters of the inhabitants of Palestine in the middle palaeolithic period.⁹

Let us pass westwards into Egypt to survey in a few words the recent discoveries which prove the existence of ancient man beside the banks of the majestic Nile.

In Egypt nearly fifty years ago, Pitt-Rivers discovered palaeoliths in the lowest river terrace west of Luxor. Père Bovier-Lapierre has discovered palaeolithic implements near Cairo, and his collection at the Collège de la Sainte-Famille, Cairo, which I have been privileged to examine contains a wealth of valuable material. Vignard discovered a peculiar, microlithic industry, called the Sebilian, in the Kom Ombo plain. These implements could be stratigraphically dated, and their discovery was an important link in the chain of evidence for the antiquity of man in that area.

Drs. Sandford and Arkell,¹⁰ sent out by the Oriental Institute of the University of Chicago, have found implements buried in the river terraces of the Nile, which resemble those implements collected in the terraces of the Thames and Somme rivers in northern Europe.

Two hundred miles south of Cairo, Guy Brunton in 1927-29 discovered predynastic cemeteries containing Badarian and Tasian skeletons. The Badarians, according to Keith,¹¹

differed in no essential respect from their successors, the predynastic Egyptians.

⁸ *Ibid.*, p. 221.

⁹ *Science* vol. 75, no. 1950, p. 14. Cable reads: "Three adult Mousterians, surely Neanderthal, heavy brow ridges, taurodont dentition." Also *Science News Letter*, June 18th, 1932 reports four additional Neanderthal skeletons.

¹⁰ K. S. Sandford and W. J. Arkell, *Paleolithic Man in the Nile-Faiyum Divide* Chicago, 1929.

¹¹ *Ibid.*, p. 228.

They were dolichocephalic and resembled markedly in type the modern inhabitants of the Kharga Oasis,¹² which lies 130 miles distant.

Fouquet¹³ measured some crania from predynastic cemeteries excavated by de Morgan in 1897. These people differed markedly from the ancient or modern inhabitants of Egypt, since they were big-headed though still dolichocephalic, with a cephalic index of about 74.

Keith (p. 230) writes:

The only reasonable explanation is to suppose that already in predynastic times a foreign people had found their way to Egypt and settled there. When we look for the homeland of such a long-headed, big-brained people, it is not towards the south but towards the north or *northeast*¹⁴ that we look. It may have been some country in the Mediterranean basin which was their homeland, for in late paleolithic times people of such a type were there. More probably, however, they came from the lands between the Mediterranean and India, for, as we shall see, people allied in type to the big-headed predynastic Egyptians are to be found buried in the early Sumerian graves of Mesopotamia.

If we continue our prehistoric survey towards the south, we pass along the western shores of the Red sea through Abyssinia and Somaliland, and finally reach Kenya Colony in British East Africa.

Abyssinia has been little explored from the prehistoric point of view, and I understand that the greatest living authority, M. l'Abbé Breuil, is planning to make an archaeological survey in this area during this year. I am confident that his report will prove the prehistoric cultural links between Abyssinia and southwestern Asia.

Somaliland has already yielded lower and middle palaeolithic specimens and while at Cambridge University in 1930, Mr. Louis Clarke, Curator of the Museum of Ethnology and Archaeology, very kindly showed me some surface flints from the area under British jurisdiction. These implements were remarkably similar in technique and even in patination to those from near Rutbah Wells in the center of the North Arabian desert.

Dr. L. S. B. Leakey plans to make a survey of this region, and his results will throw considerable light on the problem.

Near Elmenteita in Kenya Colony, Dr. Leakey has continued geological and archaeological investigations since 1927, and his results have been of primary importance. The implements from Gamble's cave are of obsidian,

¹² Ales Hrdlicka, *The Natives of the Kharga Oasis*, Smithsonian Publications 59, no. 1, 1912.

¹³ D. Fouquet, *Researches sur les Origines de l'Egypt*, vol. 2.

¹⁴ Italics my own.

so that they cannot be compared with the flint technique employed to the north and northeast. The cultural levels include typologically Aurignacian and Mousterian implements. The skeletal remains are definitely non-Neanderthal in character, and Sir Arthur Keith refers to them as proto-Hamitic in type.

According to a cabled report to London on April 19, Leakey reported the discovery of a human mandible near Kanam on the shores of Lake Victoria in a pleistocene geological stratum contemporaneous or even earlier than the Oldoway man. Pre-Chellean implements were also found and the fauna consisted of *Elephas antiquus*, and *Dinotherium*, etc.

These discoveries place the antiquity of *Homo sapiens* in East Africa farther back in time and suggest that the "cradle of man" (*Homo sapiens*) may well have been in this region or in adjoining southwestern Asia.

Returning to the southern fringe of southwestern Asia, we must admit that our knowledge of this huge desert area still remains extremely scanty, despite the fact that Captain Bertram Thomas, in the latter part of 1930 and the beginning of 1931, made his remarkable journey across the eastern end of the Rub'al' Khali—the "empty quarter" of Arabia. Captain Thomas did not find flint implements strewn on the surface of the desert, although he records¹⁵ a perfect flint arrowhead from the sands of Sanam. He adds that flint strike-a-lights are sometimes used in this area.

The central portion of Arabia has been crossed by several travelers, but they did not search for palaeoliths, and this territory still remains to be examined for traces of prehistoric man. Musil, who has made extensive journeys in Arabia, told me that since his interests lay along other channels, he never had searched for palaeolithic or neolithic implements.

The recent journey of Captain H. St. J. Philby¹⁶ is of outstanding importance, and the final report is eagerly awaited. Philby has also crossed the Rub'al Khali, and it is interesting to record that two British explorers have crossed this great desert within the past eighteen months, and less than twenty foreigners have ever visited central Arabia during the past two thousand years.

Philby entered by way of the oasis of Hasa, in northeastern Arabia, to Hofuf and later to the oasis of Jabrin, also visited by Major R. E. Cheesman in 1924.

Philby visited the ancient site of Ubar and turned west-northwest across the "empty quarter" to Sulaiyil and finally reached Mecca on April 5.

It can be expected that Philby will be able to add considerable informa-

¹⁵ Arabia Felix, p. 207. New York, 1932.

¹⁶ London Times, weekly edition, April 14, 1932.

tion to the knowledge of this mysterious and little known region of Arabia Felix.

In Iraq (Mesopotamia) no palaeoliths have yet been found south of Baghdad, and it is probable that in palaeolithic times the Persian gulf extended far to the north, so that any migratory peoples must have passed north of this sheet of water.

The excavations at Kish have been continued down to virgin soil, which was reached at a total depth of sixty feet below the original surface of the mound. Below present water level a neolithic cultural phase was found. There were flint implements in profusion associated with black polished, red and incised pottery, and an entire absence of copper. In the upper strata at Kish and Ur, chalcolithic or aeneolithic flints occur which are for the most part flakes, sickle blades, and nuclei of various sizes including microlithic cores paralleled by those from the Vindyha hills in India.

In the region north of Baghdad many archaeological mounds are covered with flint and obsidian flakes and sickle blades of undoubted chalcolithic origin. Near Kirkuk, however, Miss Garrod during March 1928 found Mousterian implements in the river gravels, and, during a visit to this region several months later, I found additional evidence of palaeolithic man.

In the Mosul *liwa* my time was extremely limited, and it was impossible to visit either the gorge at Rowanduz or the caves in the Aqrra district. I am confident that an archaeological survey of these two regions would throw considerable light on many historic and prehistoric problems.

Miss Garrod¹⁷ and her assistants excavated two caves near Sulaimaniyeh from October to December 1928. The results proved the presence of both middle and upper Palaeolithic man in this region. The cave of Zarzi contained Upper Aurignacian industry of a Grimaldian type, although the type station—the Grotte des Enfants—lies more than two thousand miles distant. The cave of Hazar Merd contained a Mousterian culture closely resembling that of the caves in Palestine, so that together with the results obtained by the Field Museum North Arabian Desert Expeditions there is a complete chain of palaeolithic evidence from the foothills of the Zagros to the Mediterranean. I feel confident that future archaeological work in the caves of northeastern Iraq will yield additional evidence of inhabitation by palaeolithic man.

In Anatolia de Morgan in 1909 found obsidian implements of Mousterian type on the slopes of Mount Alagheuz, which lies about fifty miles

¹⁷ Bul. 6 of the American School of Prehistoric Research, New Haven, 1930.

north of Mount Ararat. Dr. H. H. von der Osten, leader of the Oriental Institute Expeditions to Asia Minor has reported¹⁸ implements of palaeolithic types found by him in central Anatolia.

In Persia little evidence, either positive or negative, is at present forthcoming, but there is every reason to presuppose the existence of palaeolithic stations south of the Caspian sea and extending eastwards along the northeastern border of the Iranian plateau.

Mr. Eric Schroeder, my assistant on the North Arabian Desert Expeditions of 1928, plans to conduct archaeological investigations in the Elburz mountains, north of Teheran, and his report will be of considerable interest.

The American Institute for Persian Art and Archaeology can facilitate the obtaining of permits for Archaeological work in Persia, and with the cordial cooperation of the Persian Government, it may be anticipated that the search for palaeolithic man may be continued in Persia.

In this brief summary I have attempted to review the prehistoric discoveries in southwestern Asia and its adjacent territories.

The climate of southwestern Asia in early historic and prehistoric times has undoubtedly played a major part in human development. According to Brooks¹⁹ the climate of southwestern Asia

constitutes an eastward extension of the Mediterranean province, and the plateau climate of Asia Minor is similar to that of Spain. Arabia is an extension of the Sahara.

The rainfall is generally scanty and irregular, but falls mainly in the winter season. The summers are intensely hot and dry in the interior. The prevailing winds are northerly over the greater part of this region. The humidity is moderate, and fogs are frequent in the river valleys on cold winter mornings. Snow falls occasionally on the North Arabian desert, and in February of this year snow was reported to have fallen in Jerusalem and to have held up the Cairo-Baghdad air service.

Spring is a short season accompanied by moderate temperature, and the desert literally "blossoms as a rose." In the summer the heat is intense, and at Kish I recorded a shade temperature of 118° Fahrenheit in the early part of July of 1928.

The reason for this digression on the modern climatological conditions prevailing in southwestern Asia is to show that the North Arabian desert can only be inhabited today by nomadic peoples—the Beduins—since the scarcity of water precludes a settled agricultural existence.

¹⁸ In an oral communication to the writer

¹⁹ C. E. P. Brooks, *Climate*, New York, 1930

From geological and archaeological data obtained during the preliminary survey²⁰ of the North Arabian desert, we have proved conclusively that the climate of this entire region has altered, and in my opinion it is becoming more arid as time progresses. For example, at the time of the Roman occupation of Qasr el Burqu', which was during the fourth century of our era,²¹ a large reservoir was constructed by the legionaries from roughly dressed basalt boulders. When we visited Qasr el Burqu' on April 18-19, 1928, there was no water available within a radius of seventy-five miles. Furthermore, in the memory of our aged Solubbi (Sleyb) escort, there had never been more than a temporary pool—following winter rains—in this catchment basin.

In the majority of instances the typologically palaeolithic sites were in sheltered localities with a southern exposure, although flint workshops occurred beside many wadis, which now contain water only for a few hours after heavy seasonal rains. Large refractory nuclei were collected from the stream beds and it seems conclusive to state that the makers of these flint tools lived beside the streams, which are now for the most part waterless.

The great Wadi Hauran which meanders from Jebel Enaze to El Mat is several hundred paces in width near Tellul Abailie, and it is obvious that this could not have been formed by seasonal downpours, although they undoubtedly added to the erosive powers of the stream.

It is not possible to give a more detailed account of the climatic changes in historic and prehistoric²² times, since these cannot be ascertained until a special investigation has been completed.

I have put forward a theory,²³ which, after careful discussion with several leading orientalists appears to fit the facts at our disposal.

I believe that the Proto-Semites or Proto-Mediterraneans²⁴ were the earliest inhabitants of North Arabia. In physical type they were similar to the modern Beduins, who now wander with their flocks and herds across this great rolling wilderness. Archaeological data prove the existence of man in this region in various palaeolithic phases of culture, but in the light of present knowledge it is impossible to correlate the dates of the North Arabian flint implements with those from stratified deposits in Europe or other parts of the world. I suggest, however, that the Proto-Mediterraneans

²⁰ Field Museum Expeditions, 1927-28.

²¹ W. K. Prentice, A Greek Inscription from Kaşr Burka, *Journ. Am. Arch.* 25, pp. 48-50.

²² Prehistoric implies prior to the discovery of writing, which dates back to about 4000 B.C.

²³ Outlined in *The Open Court Magazine*, vol. 45 no. 905, p. 577, October, 1931.

²⁴ Proto-Semitic is a linguistic term, and I suggest this new alternative.

were the makers of these typologically palaeolithic and neolithic implements, and that a late neolithic cultural phase had been reached at a relatively recent date prior to the dawn of history.

The genial climate had been changing over a long period, and finally the lack of rainfall caused the streams in the wadis to become more and more sluggish, until they ceased to flow except after seasonal downpours.

The result of this change of climate forced the inhabitants to one of two things, namely, either to become nomads or to move to the banks of a large river. The result may be tentatively suggested in the following manner. A portion of this Proto-Semitic (Proto-Mediterranean) people moved to water, while the remainder became nomads, whose descendants are the proud, virile and haughty Beduins of the North Arabian and Syrian deserts. I suggest that those who refused to face the stern rigor of nomadic life divided²⁵ into two or three groups and moved eastwards to the "Fertile Crescent," westwards into Palestine, and eventually to the Nile or possibly in a southwesterly direction to Somaliland and eventually into British East Africa (Kenya Colony). I believe that Kish and other Mesopotamian cities were founded by Proto-Semites (Proto-Mediterraneans), then in a late neolithic phase of culture beside the inviting banks of the ever-flowing river Euphrates. These stragglers were "smitten with weapons" at the dawn of the fourth millennium before the Christian era by powerful invaders, who conquered and enslaved them.

Their conquerors were Sumerians, who are believed to have been racially as well as culturally distinct from the Semites. The Sumerians are thought to have been brachycephalic, and the evidence at present available points to this conclusion. This theory also accounts for the paucity of brachycephalic skulls in the lower levels at Kish.

It is interesting to record that while the excavations were in progress at Jemdet Nasr in March 1928, I uncovered a fragmentary human skeleton, which has considerable bearing on the subject in question. This individual was buried at a depth of about one meter below the surface of the mound, and since a painted (monochrome) jar of the early period was found on either side of the skull, there is no question of this having been a late intrusive Arab burial. The skull was hyper-dolichocephalic (cephalic index under 70), and since it was associated with the early painted pottery and pictographic tablets²⁶ in linear script, we can presume that this individual was one of the earliest inhabitants of Mesopotamia, since Jemdet Nasr was

²⁵ Cf. Abraham and Lot *Genesis XIII* 6-11

²⁶ S. Langdon, *Pictographic Tablets from Jemdet Nasr Excavated by the Oxford and Field Museum Expedition*, Oxford Editions of Cuneiform Texts, vol. 7, Oxford, 1928.

destroyed by fire at the commencement of the fourth millennium before the Christian era.

I might, however, add that as long as valuable skeletal material is not preserved and treated with as much reverence as pottery, cylinder seals and tablets, the evidence not only remains hidden, but, I am sorry to say, in many cases is ruthlessly destroyed by archaeological vandals, who allow the skulls, long bones or skeletal fragments to be discarded.

Let us return for a moment to the Proto-Mediterranean migrations, which may have taken place to the west and southwest of the cultural area under discussion. A contemporaneous migration may well have taken place into Palestine and Egypt, although there is archaeological evidence for a more or less continuous occupation of the Nile valley since lower palaeolithic times.

Implements from surface finds in Somaliland are identical in patination²⁷ and technique with those collected near Rutbah Wells,²⁸ and Dr. Leakey tentatively agrees that the peoples of Elmenteita may well have been part of this great Proto-Mediterranean group, who at an early date were driven out of the once pleasant lands of southwestern Asia.

In conclusion, let us examine briefly the cephalic indices of the modern and historic peoples of southwestern Asia and its adjacent territory.

The majority of the peoples are dolichocephalic, so that it will only be necessary to indicate the brachycephalic elements in this large area. According to Kappers²⁹ the western brachycephalic groups consist of all Armenoid peoples, including Armenians, Lebanese, Druze, Alouites, and some Mesopotamian Arabs.³⁰

The most important and sensational discovery regarding this whole question has been made in south Arabia by Bertram Thomas,³¹ who measured south Arabian tribesmen and found them to be brachycephalic to an amazing degree. These Arabs are, from a racial point of view, totally different from the northern groups, and according to Keith³² they represent "a residue of Hamitic population, which occupied the whole of Arabia."

I recently discussed the matter with Mr. Thomas, who believes that the

²⁷ This is never a reliable guide for surface finds in a desert region.

²⁸ Lat. 33°0' N., long. 40°20' E.

²⁹ C. U. Ariens Kappers. *Proc. Kon. Akad. van Wetenschappen*, vol. 33, no. 8, Amsterdam, 1930.

³⁰ Also recorded in my anthropometric statistics on the modern Arabs of the Kish area, now in Field Museum press.

³¹ *Arabia Felix*, New York, 1932, Appendix I by Sir Arthur Keith and Dr. W. M. Krogman.

³² *Ibid.*, p. 333.

aboriginal inhabitants of central and South Arabia were the ancestors of his tribesmen, and agrees that the sands of the Ruba'al Khali may well have been a migratory barrier dividing racially the inhabitants of north and south Arabia. This and many other questions remain at present unsolved.

In the light of available evidence it seems to me plausible to suggest that southwestern Asia and East Africa may well have been the center or one of the focal distribution points for *Homo sapiens*, since in prehistoric times this region lay in a genial climatic zone always to the south of the great European ice sheets.

It remains for the physical anthropologist to collect anthropometric data and photographs of the living peoples of southwestern Asia, and for the careful excavator to wrest the long buried secrets from the earth.

FIELD MUSEUM OF NATURAL HISTORY
CHICAGO

KINSHIP MORPHOLOGY
OF FORTY-ONE
NORTH AUSTRALIAN TRIBES

By W. LLOYD WARNER

THE kinship morphology of the 41 tribes of North Australia presented here will be considered under two main divisions. The first section of the paper will be concerned with the various types of kinship structure, and the latter half of the article will present the types of subsections and semi-moiety groupings found in the northern part of the continent.¹

I. THE KINSHIP STRUCTURE OF THE 41 TRIBES

There are four fundamental types of kinship structure found in the areas studied. Each type includes several tribes in its group. All the tribes have the classificatory type of kinship and group their collateral relatives with those in the immediate family. For the purposes of simplification each type has been given the name of one of the normal tribes in its classification. The four types are called Gun-wing-gu, Wan-der-ung, Murng-in, and Lar-a-ki-a.

A. Gun-wing-gu

The southern boundary of the Gunwinggu type of kinship structure runs roughly from the mouth of the Fitzmorris river on the Indian ocean to a point on the western shores of the Gulf of Carpentaria slightly below the mouth of the Rose river (see map). The northern border begins at the base of Blue Mud bay on the western shores of the Gulf of Carpentaria and turns inland for about 120 miles to the headwaters of the Walton river, where the boundary line turns northward and runs in a more or less straight line, following the Blythe river to its mouth just to the west of Cape Stewart in the Arafura sea. All the tribes studied by the author in the territory north and west of the two boundaries just described possess the Gunwinggu type of kinship structure except the Larakia and Wulna peoples at Port Darwin.

The following tribes are included: Gun-wing-gu, Ma-ung, Gun-a-wi-tji, Na-kar-a, Rain-barng-o, I-wai-dja, Ka-ka-du, Um-ba-gar-la, Mai-al-li, Worgaits, Brinkan, Mul-lik-mul-lik, Dja-mun-djon, Djau-un, Ngan-di,

¹ Comment on the relative value of the field material in this article will be found in the appendix (see page 83). Criticism of Sir Baldwin Spencer's *Native Tribes of the Northern Territory of Australia* and Spencer and Gillen's *The Northern Tribes of Central Australia* will also be found in the appendix.

ending and descending relatives. These latter kinship personalities trace their descent from ego's mother's father.

The two patrilineal lines, ego's with ten to eleven terms, according to the tribe (the term brother is split into older and younger brother and adds one more relative to the original ten), and ego's mother's line, which always possesses ten relatives, form the basic elements of the patrilineal exogamous named moieties found in all the tribes described in this paper who possess the Kariera type of kinship structure.

The fundamental mechanism which forms the underlying basis of this system is symmetrical cross-cousin marriage. In other words, a mother's brother's son regularly marries his father's sister's daughter, which means that in ego's generation, ego marries his mother's brother's daughter and his sister marries his mother's brother's son. In the first descending generation his son marries ego's sister's daughter and ego's daughter marries his sister's son. In the first ascending generation ego's father's sister marries his mother's brother. In the second ascending generation ego's mother's mother is at the same time his father's father's sister and ego's mother's father is the brother of his father's mother. In the second descending generation ego's son's son marries ego's daughter's daughter and his son's daughter marries ego's daughter's son.

Terminology: Father's father and son's son in the Kariera type, with very few exceptions, are called by the same term, also mother's mother and son's daughter, as are father's mother and daughter's daughter, and mother's father and daughter's son. As can be seen, each set of these terms is a reciprocal. Usually the second ascending and descending generations possess four separate terms—two male and two female.

In the first ascending generation father and father's sister have different names, as do mother and mother's brother. In the first descending generation one finds son and daughter usually are classed under one name (see Charts I and II).

In ego's own generation there is a differentiation of older and younger brother. This seems a close correlate of the levirate, that is, it serves to give concrete expression in the kinship system to the law that makes a younger brother inherit his dead older brother's wives.

Sister is always called by a separate term from brother. There is only one case of older and younger sister (Kakadu).

Usually wife (mother's brother's daughter) and wife's brother (mother's brother's son) are given different names by ego. The reciprocal terms between wife's brother and ego are usually the same name, but wife and husband call each other by separate terms. Ego's sister calls her husband

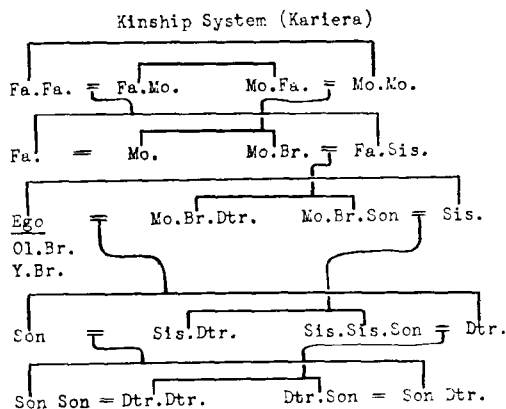
Chart I Kariera Kinship Terminology

English Descriptive Kinship Terminology	Maí-áí-lí	Gun-wíng-gu Gun-a-wít-jí Na-ka-r-a	Ma-ung	Djan-un	Ngan-dí	Rain-barng-ō	Ngal-bon	Nung-ga-bu-yu	Mul-lir-mul-lik	Dja-mun-djon	Worçatts Brin-kan	I-wai-dja	Ka-ka-dju	Um-ba-gar-le	Sub-sections
Ol. Br. . Y. Br.	Go-gawk, dja-gír	Go-gawk, dar-ta	Gai-yu Mau-wit	Eaba, bur-wa	Wa-wa, kai-úk-úi	Kong-gín-nē Mu-er-in-ne Dai-yep-a	Wa-ú, Wul-gín	Mur-rí-yu, nín-ní-lá-ka	Mí-djung, yid-bí	{ Pul-le Il-lun-nun	Nambulla, baluk	Wul-gu, un-bu-ít	{ Per-dang-a Ni-la-bir-1 Mo-gong-u Ni-la-bir-1	Ma-ma, ba-da	A ¹
Sister	Ya-bawk	Ya-bawk	Lar-la	Dja-dja	Gu-raít		Ya-bawk	Mur-rí-yu, nín-ní-lá-ka	Mí-djung, yid-bí	Mun-muk	Baluk or yabeduk	Lar-la		Mar-nain	A ²
Mo. Br. Son	Gan-yawk	Gain-yok	Na-non	Nai-gal-lí	Ger-nuk-ní	Tu-lung-in-ne	Ka-kal-lí	Nan-ní-yer-ke	A-wung	Nan-gun	Ngung-a	Wil-go-mō	Ngein-ma-dir-lí-gid-dji	Ní-wín	B ¹
Mo. Br. Dtr. (wife)	De-luk	Nal-go-bin	Wil-go-wo	Nang	Ger-nuk-ní	Ta-gar-on	Gér-dung	Ful-kul	Al-lō-war, or yal-nunr	Pur-lí-ma	Ngang-ar-in	Wil-go-mō	Nung-u-ma-gal-lí	Mar-nu	B ²
Fa.	Na-part	Na-part	Bun-yí	Djert	Nin-ye-ong	No-ye-arn	Bu-lu	Ba-pa	Bai-yung	Il-le	Ba-pa	Bun-yí	Ba-pa	Ba-wa	D ¹
Fa. Sis.	Ber-lu	Ber-lu	Wi-lu-bí-lu	Djo-gong	Nang-a-oi	Ta-mern-bain	Djung-ak	Nga-wí	Na-wain	Bi-pí	Na-wain	Sir-lu	Ni-la	Bi-bí	D ²
Mo. Br.	Na-djeit	Nai-djeit	I-gí	Gan-ya	Kai-kai	Kain	Gar-dok	Bi-pí	Ga-gun	Ga-ga	Ka-ka	Yai-dja	Dja-dja	Dja-dja	C ¹
Mother	Gar-rart	Gar-rart	Ge-mo-mo	Ger-dung	Nan-a-pang	Dang-a-la	Na-mung	Ni-kung	Wi-yung	Gai-le	Ka-lung	Ge-mu	Kai-yu	Me-lu	C ²
Fa. Fa.	Ga-gak	Ma-wa or ga-gak	Wa-ú	Mor-a	Mur-dí	Mur-dí	Ga-gak	Mur-dí	Djo-wain	Gan-gu-nai	Djer-main or Gō-ga	Wi-wí	Ka-ka or Kir-na-gal-lí	Dja-mun	A ¹
Fa. Fa. Sis. (Mo. Mo.)	Ga-gak	Ga-gak or ma-wa	Wi-wí	Ga-bung	Mur-dí	Mur-dí	Ga-gak	Mur-dí	Djo-wain	Gan-gu-nai	Djer-main or Gō-ga	Wi-wí	Ka-ka or Kir-na-gal-lí	Dja-mun	A ²
Fa. Mo.	Namun	Ma-mim	Marn-marn	Dja-mun	Mi-mim	Mul-taer	Ma-mum	Mo-mo	A-djung	Da-mun	(N)a-dja	Ma-mim or ba-bun	Bi-pí	Gang-gu	B ¹
Mo. Fa.	Namun	Ma-mum	Marn-marn	Dja-mun	Mi-mim	Da-mul-taer	Mi-mi	Mo-mo	A-djung	Man-ge	(N)a-dja	Ma-mim or ba-bun	Bi-pí	Gang-gu	B ²
Son	Gor-loin	Gor-loin	Nga-wín	Bo-bo	Ki-ung-í	Wal-kur	Bi-ong-un	Na-ní-kí	Nai-yung	Mul-luk-nai	Ni-a	Nga-wín	Nō-om-bir-dí	Nir-ung	D ¹
Dtr.	Gor-loin	Gor-loin	Nga-wín	Djo-gern	Ki-ung-í	Wal-kur	Pi-djan	Nung-ar-í	Al-lí-yung	Na-wí	Nai-yí	Nga-wín	Nō-om-bir-dí	Nir-ung	D ²
Sis. Son (Dtr. Hus)	Gan-gín	Gon-gín	Gain-yon	Mor-la	Da-kung-í	Ta-kun	Ut-nan	Mer-ik	A-djung	Ni-nar	Nim-gā	Gan-yung	Ma-pa	Gan-gín	C ¹
Sis. Dtr. (Son's wife)	Gan-gín	Gon-gín	Gain-yon	Djo-gang	Da-kungí	Ta-kun	Ut-nan	Mer-ik	A-djung	Na-la	Na-djing-ga	Gan-yung	Ma-pa	Gan-gín	C ²
Son's son	Ga-gawk	Ma-wa or Ga-gak	Wa-u	Mor-a	Mur-dí	Mur-ding-gā	Win-gun	Mur-dí	Djo-wain	Gan-gul	Go-ga or Djer-main	Wi-wí	Ko-mam-bung-a	Dja-mun	A ¹
Son's Dtr.	Ga-gawk	Ma-wa or Ga-gak	Wi-wí	Ga-bung	Mur-dí	Da-mur-ding-gā	Win-gun	Mur-dí	Djo-wain	Go-no-nai	Go-ga or Djer-main	Wi-wí	Ko-mam-bung-a	Dja-mun	A ²
Dtr. Son	Namun	Ma-mum	Marn-marn	Dja-mun	Mi-mim	Mul-taer	Gain-yu-wa	Mo-mo	A-djung	Ga-wu-nai	(N)a-dja	Ma-mum or ba-bun	Ma-pirng-a	Gang-gu	B ¹
Dtr. Dtr	Namun	Ma-mum	Marn-marn	Dja-mun	Mi-mim	Da-mul-taer	Gain-yu-wa	Mo-mo	A-djung	Ga-wu	(N)a-dja	Ma-mum or ba-bun	Ma-pirng-a	Gang-gu	B ²

(mother's brother's son) by the same term as ego and she calls his wife by the same term as he does.

From the above description it can be seen that the usual classification of woman-speaking and man-speaking does not apply here. Ego's mother does call him by a different term than does his father. Ego's mother calls her brother's son by the same term as he calls his son and ego's father's sister calls ego by the term that ego's father calls him.

Chart II Gun-wing-gu



This seems to contradict the above statement, but really proves it. The equivalence of brothers is recognized almost everywhere in primitive society,⁴ but in North Australia the sister is also equivalent with her brother in many respects. She is the female portion of ego, just as brother is the male objectification of ego. Ego's brothers and ego call all men and women by the same terms. Ego's sisters do the same. If ego calls his son and daughter "gorloin" (Gunwinggu), so does his sister.

Thus mother's brother and mother use the same terms; so do father's father and mother's mother; father's mother and mother's father; son's son and son's daughter; and daughter's daughter and daughter's son.

Spencer and Gillen failed to recognize this and have used man- and

⁴ See A. R. Radcliffe-Brown, *The Mother's Brother in South Africa*.

woman-speaking. This is also true of the Mara, Anula, Mungarai, Djauun, Worai, et cetera.⁵

B. Wan-der-ung

The northern boundary of the Wanderung is formed by the southern limit of the Gunwinggu variety (see page 64). In the south this group connects with the peoples studied by Spencer and Gillen who have the same type of kinship structure (Arunta).⁶ For the western and eastern limits see Radcliffe-Brown's paper in Oceania.

The following tribes are included: Wan-der-ung, Yi-kul, Nul-li-kin, Mar-a, An-nu-la, Kar-a-wa, Al-lo-wa, In-gur-a, Mung-ar-ai, Yung-mun, Mal-ngin, Ngrain-mun, War-du-man, Mud-bur-a, and Buli-nara.⁷

There are 41 kinship personalities found in the Arunta type of structure, with four lines of descent instead of two, as in the Kariera. This means that in each moiety there are two lines of descent whereas Kariera possessed only one.

In the Arunta type, ego marries his mother's mother's brother's daughter's daughter instead of his mother's brother's daughter (or, from other points of view, his father's mother's brother's sister's daughter, father's father's sister's daughter's daughter or mother's father's sister's daughter's daughter). This marriage forms the fundamental basis of the Arunta type and clearly distinguishes it from the Kariera system. From the woman's point of view, she marries her father's father's sister's son's son (this same male may also be described as mother's mother's brother's daughter's son, father's mother's brother's son or mother's father's sister's daughter's son).

⁵ See Spencer and Gillen's *Northern Tribes of Central Australia* and Spencer's *Native Tribes of the Northern Territory of Australia*.

⁶ See A. R. Radcliffe-Brown, *Oceania* 1, no. 1: 39.

⁷ In the above list Wanderung, Malngnin, and Ingura are tribes not found in the list of kinship systems that were studied either by Spencer and Gillen in the *Northern Tribes of Central Australia*, or by Spencer in his later work. They did not work out completely the kinship structure of any of the tribes.

Norman B. Tindale, in his monograph, *Natives of Groote Eyelandt and the West Coast of the Gulf of Carpentaria*, speaks of the Wadere on the base of the Gulf of Carpentaria. Wadere is the Mar-a term for the Annula tribe, but these latter people refer to themselves as Annula. A. R. Radcliffe-Brown, *Oceania* 1, no. 3: 332, says, when speaking of the Ingura, "Too little is at present known about its social organization to permit us to speak with any certainty" about their kinship organization. Part of my field notes were not available to him at the time he made this statement, unfortunately, since they contained the kinship terminology of the Ingura. My notes demonstrate that this tribe belongs to the general Arunta type of structure.

Chart III Wanderung (Aranta) Kinship Terminology

English Descriptive Terms	1 Kar'-a-wa	2 Al'-lo-wa	3 An-niu'-la	4-5 Mar'-ga and Yi'-li	6 Wan'-der-ung	7 In-lur'-a	8 Mung'-ar-ai	9 Yung'-mun	10 Mud-bur'-ra	11 Mal-ngin	12-13 Ngrain-mun and Bil-li'-nar-ra	14 War-du-men	Sub-Sections
Cl.Br., Y.Br.	Ba-wa, ba-ba-ban'-ya	Ba-ba, li-bil-li	Ba-ba, u-na-ga	Ba-ba, Lim-bil-li	Nga-wai-i	Na-wer'-ga Na-min-na-mun-djer'-ga	Na-wa, ya-la	No-bung'-a	Na-pa Kar-lai-dja Gai-lu	(Na-bai-i or Dju-la-ma Gor-laitch Gai-u-lu, Gor-laitj)	Na-pa, gal-lai-tji	Ba-pa, ga-lai-dja	A ¹
Cl.Sis., Y.Sis.	Mi-dju, Ba-ba-ban'-ya	Ba-ba'ba	Ba-ba, u-na-ga	(Gua-ru-bur-no Lim-bil-li)	Ngan-da-la	Na-ya-per'-ga	Pa-pa	Na-mung'-a				I-na-mut	
Fa.Mo.Br.S.S.	Na-wi	Yor-gal-li	Pa-na-ta	Um-bar-na	Nga-o'-djin	Na-ni-ye'-ga	Kaln-bum	Mar-mung'-a	Mun-bar'-na	Mon'-gait	Mon'-gait	Dar'-du	B ¹
Fa.Mo.Br.S.S.Dtr. (wife)	Dji-bar-i	Fai-ka	(Yur-ru-bur-ra Ner-bi-bar-ti)	Na-nai-gor-la	Nga-bu'-djin	Da-din-ni-ye'-ga	Kaln-bum	Noi-yung'-a	Mon-gai'-dja	Mon'-gait	Mon'-gait	Nga-u-yu	
Mo.Br.Son	Mi-mi'-a	Ma-gar'-ra	Mi-mi	Ma-gar'-ra	Nga-bi-dja-dja	Dja-nang-in-djer-djer	Mi-djer-i or Dja-djap	Yor-ung'-a	Barn-gu'-dji	Dja-wi'-dji	Barn-gu'-dji	So-gal-li	B ²
Mo.Br.Dtr.	Mi-min'-a	Ma-gar'-ra	Mi-mi	Ma-gar'-ra	Nga-bi-dja-dja	Dang-in-nang-in-djer-djer	Mi-djer-i or Dja-djap	Yor-ung'-a	Dja-wi'-dji	Dja-wi'-dji	Dja-wi'-dji	Bogal-li	
Mo.Mo.Br.S.S.	Gu-dji-dan-ga	Go-go	O-go-go	Go-go	Nga-ga-ga		Ga-gak	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	A ²
Mo.Mo.Br.S.S.Dtr.	Go-gar-lin-a	Go-go	O-go-go	Go-go	Nga-ga-ga		Ga-gak	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	
Fa.	Bar-nung-i Bu-ga-ga Ga-wi-dja	Gur-ni	Pi-yi	Lur-lu	Nga-ba-ba	Nang'o	Par-da	Bi-ung'-a	Gi-da	Na-dji	Na-tji	Gar-du-gu	D ²
Fa.Sis.		Bar-nan-a	Nar-na	Bar-nan-a	Bar-nan-a	Dang-in-ye'-ga	Il-lim-bir'-a	Par-bung'-a	Na-linya mo-go-la	Ni-mar'-a	Mo-kul	Bur-nang'-a-na	
Fa.Mo.Br.Son	Gar-du-nan-dji	Yir-il'-ka	Ar-du-wan-da	Ni-pal'-li	An-ni-wal-na	Na-per-ra'-ga	Bar-a nal-li or Dje-a	Na-wung'-a	Lum-bar'-a	Lum-bar'-a	Dja-bar-da	Dju-ga	C ¹
Fa.Vo.Br.Dtr.	Bu-lung-a	Yir-il'-ka	Ar-du-wan-da	Nai-wu'-li	An-ni-wal-na	Da-per-ra'-ga	Bar-a nal-li or Dje-a	Na-wung'-a	Dju-ga	Lum-bar'-a	Na-mai-i	Dju-ga	
Mo.Br.	Bi-dji	Bi-ci	Ar-di-ar-di	Gar-di-gar-di	Na-ko-wo	Nai-i-per'-ga	Gun-gu	Ka-mung'-a	Nga-min-i	Ga-ga	Ga-ga	Ka-mu-mu or ga-djer-di	C ²
	Nai-i-per'-ga	Ku-dja	U-i-pi	Kai-dji-r-ri	Nga-i-bi	Din-dir'-ka	Nan-ni	Gui-yung'-a	Dju-gar-di	Nol-yin-i	Na-mai-i	Ga-djer-di	
Mo.Mo.Br.Son	Gwar-ni	Mar-nu-nu	Yu-war-na	Mu-lor-i	An-ni-ra-min	Na-di-djer'-ga	Gan-dji	Lum-barng'-a	Mai-li	Gurn-dait	Mai-li	Dji-r-ung'-a	D ¹
Mo.Mo.Br.Dtr.	Un-ye'-i	Mar-nu-nu	Yu-war-na	Mu-lor-i	An-ni-ra-min	Da-di-djer'-ga	Gan-dji	Bai-ing-a	Gun-dai-dja	Gurn-dait	Gun-dait	Wa-du-wa-du	
Fa.Fa.	Mur-i-mur-i	Gan-gan-gu	Mur-i-mur-i	Mur-i-mur-i	Nga-mur	Nir-mir-rer'-ga	Mur-i-mur-i	Ma-rung'-a	Na-pa	Na-pa	Nga-pa	Ba-pa	A ¹
Fa.Fa.Sis.	Mur-i-mur-i	Gan-gan-gu	Mur-i-mur-i	Mur-i-mur-i	Nga-mur	Du-min-djer'-ga	Mur-i-mur-i	Ma-rung'-a	Gai-lu	Na-pa	Ga-o-lu	I-na-mut	
Fa.Mo.Br.	Na-wu-dji	Na-bu-dji	Na-bu-dji	Mi-mi	Nga-mi-mi	Nu-min-djer'-ga	Mi-mi	Noi-djung'-a	Mun-bai-na	Mon'-gait	Mon'-gait	Dar'-du	B ¹
Fa.Mo.	Na-wu-dji	Na-bu-dji	Na-bu-dji	Mi-mi	Nga-mi-mi	Du-min-djer'-ga	Mi-mi	Noi-djung'-a	Mon-gai-dja	Mon'-gait	Mon'-gait	Ing-nao-yu	
Mo.Fa.	Mi-min'-a	Gar-di-gar-di	Mi-mi	Bi-dja-dja	Nga-bi-dja-dja	Nang-in-dja-min-djer-ga	Mi-djer-i or Dja-djap	Dja-mun	Barn-gu'-dji	Dja-wi'-dji	Barn-gu'-dji	Dju-dju	B ²
Mo.Fa.Sis.	Mi-min'-a	Gar-di-gar-di	Mi-mi	Bi-dja-dja	Nga-bi-dja-dja	Dang-in-dja-min-djer-ga	Mi-djer-i or Dja-djap	Dja-mun	Dja-wi'-dji	Dja-wi'-dji	Dja-wi'-dji	Dju-dju	
Mo.Mo.Br.	Gu-dji-dan-ga	Go-go	O-go-go	Go-go	Nga-ga-ga	Nun-ga-wer'-ga	Ga-gak	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	A ²
Mo.Mo.	Go-gar-lin-a	Go-go	O-go-go	Go-go	Nga-ga-ga	Dun-ga-wer'-ga	Ga-gak	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	
Son	Djan-dain-ya	Win-yil-li	Ka-dja-ka-dja	Ni-djal-li	Ngan-ni-tja	Na-nuk-wer'-ga	Pi-ran-dju	Ke-ung'-a	Na-lin-ya	Na-lin-ya	Na-la-win	I-ge-yu	D ²
Dtr.	Ka-dja-ka-dja	Win-yil-li	Ka-dja-ka-dja	Ni-djal-li	Ngan-ni-tja	Da-di-a-wer'-ga	Pi-ran-dju	Ke-ung'-a	Na-lin-ya	Na-lin-ya	Na-la-win	Bur-nang'-a-na	
Fa.Mo.Br.S.S.S.	Gar-du-nan-dji	Yir-il'-ka	Ar-du-wan-da	Ni-pal'-li	An-ni-wal-na	Na-per-ra'-ga	Der-a nal-li or Dje-a	Na-wung'-a	Lum-bar'-a	Dju-ga	Dju-ga	Dju-ga	C ¹
Fa.Mo.Br.S.S.Dtr.	Bu-lung-a	Yir-il'-ka	Ar-du-wan-da	Ni-pal'-li	An-ni-wal-na	Da-per-ra'-ga	Der-a nal-li or Dje-a	Na-wung'-a	Dju-ga	Dju-ga	Dju-ga	Dju-ga	
Mo.Br.S.S.	Bur-in-i	Bi-bi	Ar-di-ar-di	Gar-di-gar-di	Na-ko-wo	Nai-i-per'-ga	Gun-gu	Ka-mung'-a	Nga-min-i	Djal-yir-i	Ga-ga	Ka-mu-mu or ga-djer-di	C ²
Mo.Br.S.S.Dtr.	Bur-in-i	Ku-dja	Ya-ka-i-a-pan-da	Kai-dji-r-ri	Nga-i-bi	Din-dir'-ka	Nan-ni	Gui-ung'-a	Dja-gol-di	Dja-gar-di	Na-mai-i	Ga-djer-di	
M.M.Br.S.S.S.	Gwar-ni	Mar-nu-nu	Yu-war-na	Mu-lor-i	An-ni-ra-min	Na-di-djer'-ga	Gan-dji	Lum-barng'-a	Mai-li	Gurn-dait	Mai-li	Dji-r-ung'-a	D ¹
M.M.Br.S.S.Dtr.	Un-ye'-i	Mar-nu-nu	Yu-war-na	Mu-lor-i	An-ni-ra-min	Da-di-djer'-ga	Gan-dji	Bai-ing-a	Gun-dai-dji	Gurn-dait	Gun-dait	Wa-du-wa-du	
Son Son	Mur-i-mur-i	Gan-gan-gu	Mur-i-mur-i	Mur-i-mur-i	Nga-mur-i	Nir-mir-rer'-ga	Mur-i-wa	Ma-rung'-a	Na-pa	Na-pa	Nga-pa	Ba-pa	A ¹
Son's Dtr.	Mur-i-mur-i	Gan-gan-gu	Mur-i-mur-i	Mur-i-mur-i	Nga-mur-i	Du-mir-rer'-ga	Mur-i-wa	Ma-rung'-a	Gai-lu	Na-pa	Ga-o-lu	I-na-mut	
Fa.Mo.Br.S.S.S.S.	Na-wu-dji	Ri-gil-li	Na-bu-dji	Mi-mi	Nga-mi-mi	Nu-min-djer'-ga	Mi-mi or Mir-an-dju	Noi-djung'-a	Mun-bar'-na	Mon'-gait	Mon'-gait	Dar'-du	B ¹
Fa.Mo.Br.S.S.S.Dtr.	Na-wu-dji	Ri-gil-li	Na-bu-dji	Mi-mi	Nga-mi-mi	Du-min-rer'-ga	Mi-mi or Mir-an-dju	Noi-djung'-a	Mon-gai-dja	Mon'-gait	Mon'-gait	Ing-nao-yu	
Dtr.Son	Mi-min'-a	Gar-di-gar-di	Mi-mi	Bi-dja-dja	Nga-bi-dja-dja	Nang-in-dja-min-djer-ga	Mi-djer-i or Dja-djap	Dja-mun	Barn-gu'-dji	Dja-wi'-dji	Barn-gu'-dji	Dju-dju	B ²
Dtr.Dtr.	Mi-min'-a	Gar-di-gar-di	Mi-mi	Bi-dja-dja	Nga-bi-dja-dja	Dang-in-dja-min-djer-ga	Mi-djer-i or Dja-djap	Dja-mun	Dja-wi'-dji	Dja-wi'-dji	Dja-wi'-dji	Dju-dju	
M.M.Br.S.S.S.S.	Gu-dji-dan-ga	U-djar-ril-li	O-go-go	Go-go	Nga-ga-ba	Nun-ga-wer'-ga	Ga-gak or Um-ba-lu-ga	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	A ²
M.M.Br.S.S.S.Dtr.	Go-gar-lin-a	U-djar-ril-li	O-go-go	Go-go	Nga-ga-ba	Dun-ga-wer'-ga	Ga-gak or Um-ba-lu-ga	Na-gung'-a	Dja-dju	Dja-dju	Dja-dju	Ga-go-go	

Terminology: Ego's wife's mother is no longer his father's sister, as in the Kariera type, but his mother's mother's brother's daughter, and his wife's father now becomes his father's mother's brother's son instead of mother's brother. However, if the reader will refer to Charts III and IV he will see that, if ego's father's mother's brother is mother's father, then the child of this relative, and both are looked upon as one relative and called by one kinship term by ego; mother's brother and father's mother's brother's son are but the same personality split into half and given two different names according to the descriptive content of each term. The same holds for father's sister and mother's mother's brother's daughter's daughter. The two new terms are but the halves of one social personality in the Kariera type.

(It is possible, therefore, that the Arunta type is a later development of the Kariera form. This becomes even more likely when the general distribution shows that the former has a central location in the Australian continent, while the Kariera type is distributed around it.)

In this type the second descending generation's names are the same as in the second ascending. That is, the reciprocal of father's father and father's father's sister is the same term as son's son and son's daughter (*muri muri* and *muri muri*, in Karawa). Frequently too, the term designating the four relatives mother's father, mother's father's sister, daughter's son and daughter's daughter is also used to describe mother's brother's son and mother's brother's daughter. (See Chart III.) In Karawa "*Mimina*" describes all the above relatives.

Usually the term given to mother's mother's brother, mother's mother, and mother's mother's brother's son's son's son's son and mother's mother's brother's son's son's son's daughter is also applied to mother's mother's brother's son's son and daughter. (See Charts III and IV.)

A glance at Diagram IV will show these relatives to be in alternating generations (mother's father—mother's brother's son—daughter's son, etc.). The meaning of this will be made clear when the subsections are discussed.

In tribes like the Mudbura and Warduman the alternation of terms is extended into ego's own line, so that father's father, older brother, and son's son have the same term applied to them as do father's father's sister, sister, and son's daughter.

C. Murng-in⁸

The tribes possessing the Murngin kinship structure are found roughly

⁸ See *Oceania* 1, no. 3: 331 and A.A. 32: 172-198.

Chart V Murgin Kinship Terminology

English Descriptive Terms		Murgin-in		Year-nung'-o	Yen-dji-mung	Djin'-ba	Bu-ter'-a	Ri-tarag'-o	Sub-Sections
		Da-i-i	Bar-le-mo-mo						
Ol.Br., Yr.Br.	00♂	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	Wa-wa, Yu-ki-yu-ko	A ¹ agd A
	00♀	Yep-pa	Yep-pa	Yep-pa	Yep-pa	Yep-pa	Yep-pa	Yep-pa	
Mo.Br.Son	01r♂	Gal-le	Gal-le	Gal-li	Mun-nin-ni	Mun-nuk	Yir-rum-di	Gal-le-in	B ¹ agd B ²
	01r♀	Gal-le	Gal-le	Gal-li	Mun-nin-ni	Mun-nuk	Min-dji	Gal-le-in	
Mo.Mo.Br.S.S.	02r♂	Mar-i	Mar-i	Mar-mo-ko	Me-dji	Mon-no-nok	Djir-da	Mar-ing	A ¹ agd A
	02r♀	Mar-i	Mar-i	Mar-mo-ko	Me-dji	Mon-no-nok	Djir-da	Mar-ing	
Mo.Mo.Br.S.Dtr.	03l♂	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-tchi	Nai-tohuk-(kar-mal-a)	Dja-min-a	Na-tchi-wal-ker	B ¹ agd B ²
	03l♀	Mo-mel-ker	Mo-mel-ker	Mo-mel-ker	Na-tchi-tchi	Nai-tohuk-(kar-mal-a)	Dja-min-a	Mo-mel-krung	
Fa.Sis.Son	01e♂	Du-e	Du-e	Du-i	Yar-ril-li	Kai-ter-a	Yir-um-bi	Du-ung	B ¹ agd B ²
	01e♀	Du-e	Du-e	Du-i	Yar-ril-li	Kai-ter-a	Yir-um-bi	Du-ung	
Mo.Mo.Br.S.S.	02e♂	Ku-tar-a	Ku-tar-a	Ku-tar-i-a-mo	Kim-nir-ri	Kim-ter-a	King-gir-di	Ku-tar-ang	A ¹ agd A
	02e♀	Ku-tar-a	Ku-tar-a	Ku-tar-i-a-mo	Kim-nir-ri	Kim-ter-a	King-gir-di	Ku-tar-ang	
Fa.	03e♂	Du-mun-gur	Du-mun-gur	Du-mun-gur	Du-mun-gur	Nai-djuk	Air-a-gu-teha	Du-mun-gur	B ¹ agd B ²
	03e♀	Du-mun-gur	Du-mun-gur	Du-mun-gur	Du-mun-gur	Nai-djuk	Air-a-gu-teha	Du-mun-gur	
Fa.Sis.	1e0♂	Mur-ni or Bu-pa	Mur-ni or Bu-pa	Gun-no	Gun-djir-ri	Gun-djer-a	Nain-ya	Be-pung	D ¹ agd D
	1e0♀	Mo-kul-mal	Mo-kul-mal	Mo-kul-mal	Be-o-pi	Mo-kul	Be-pa	Mo-kung Be-pung	
Mo.Br.	1e1r♂	Gal-wel	Gal-wel	Kai-kai	Kai-kai	wa-wuk	ou-la	Kai-king	C ¹ agd C
	1e1r♀	Ngarn-di	Ngarn-di	Na-mar-ku-li	Nam-bir-ri	Nom-ber-a	Ma-ma	Nar-ding	
Mo.Mo.Br.Son	1e2r♂	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Dja-bur	Ma-rel-ker-ong	D ¹ agd D
	1e2r♀	Mo-kul	Mo-kul	Na-mar-ku-li	Pa-o-pi	Mo-kul (nar-ki)	Mu-na	Mo-kong (djok)	
Mo.Mo.Br.S.Dtr.	1e3r♂	Ca-wel	Ca-wel	Kai-kai	Kai-kai	Ka-per-a	Gula	Kai-king	C ¹ agd C
	1e3r♀	Ngarn-di	Ngarn-di	Na-mar-ku-li	Nam-bir-ri	Ram-ber-a	Dja-ma	Nar-ding	
Fa.Fa.Sis.Son	1e4e♂	Wa-ku	Wa-ku	Ko-kol-ngö	Ka-pir-ri	Ka-per-a	Mu-la	Wa-kung	A ¹ agd A
	1e4e♀	Wa-ku	Wa-ku	Ko-kol-ngö	Rum-bir-ri	Ram-ber-a	Mu-la	Wa-kung	
Fa.Fa.Sis.Dtr.	1e5e♂	Gur-rong	Gur-rong	Nan-ko-mung-o	Gur-rong	Gur-rong	Dja-bur	Gur-rong	D ¹ agd D
	1e5e♀	Gur-rong	Gur-rong	Nan-ko-mung-o	Gur-rong	Gur-rong	Dja-bur	Gur-rong	
Mo.Mo.Br.	1e6e♂	Wa-ku	Wa-ku	Ko-kol-ngö	Ka-pir-ri	Ka-per-a	Mu-la	Wa-kung	C ¹ agd C
	1e6e♀	Wa-ku	Wa-ku	Ko-kol-ngö	Rum-bir-ri	Ram-ber-a	Mu-la	Wa-kung	
Fa.Fa.	11e0♂	Mar-rik-mo	Mar-rik-mo	Mar-rik-mo	Mar-mung	Ma-rik-mung-o	Mar-mung-a	Ma-rik-mung-o	A ¹ agd A
	11e0♀	Mar-rik-mo	Mar-rik-mo	Mar-rik-mo	Mar-mung	Ma-rik-mung-o	Mar-mung-a	Ma-rik-mung-o	
Mo.Fa.	11e1r♂	Na-ti	Na-ti	Na-tchi-tchi	Na-tchi-tchi	Nai-djuk	Dja-min-a	Na-ting	B ¹ agd B ²
	11e1r♀	Mo-mo	Mo-mo	Mo-mo	Na-tchi-tchi	Nai-djuk	Dja-min-a	Mo-mung	
Mo.Mo.Br.	11e2r♂	Mar-i	Mar-i	Kar-mo-ko	Me-dji	Mo-no-ko	Djir-da	Mar-ing	A ¹ agd A
	11e2r♀	Mar-i	Mar-i	Kar-mo-ko	Me-dji	Mo-no-ko	Djir-da	Mar-ing	
Mo.Mo.No.	11e3r♂	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-tchi	Nai-tchuk (kar-mal-a)	Dja-min-a	Na-tchi-wal-ker	B ¹ agd B ²
	11e3r♀	Mo-mel-ker	Mo-mel-ker	Mo-mel-ker	Na-tchi-tchi	Nai-tchuk (kar-mal-a)	Dja-min-a	Mo-mel-krung	
Mo.Mo.Br.Son	11e4e♂	Du-e	Du-e	Du-i	Yar-ril-li	Kai-ter-a	Yir-um-bi	Du-ung	B ¹ agd B ²
	11e4e♀	Du-e	Du-e	Du-i	Yar-ril-li	Kai-ter-a	Yir-um-bi	Du-ung	
Mo.Mo.Br.	11e5e♂	Ku-tar-a	Ku-tar-a	Ku-tar-i-a-mo	Kim-nir-ri	Kim-ter-a	King-gir-di	Ku-tar-ang	A ¹ agd A
	11e5e♀	Ku-tar-a	Ku-tar-a	Ku-tar-i-a-mo	Kim-nir-ri	Kim-ter-a	King-gir-di	Ku-tar-ang	
Son	12e0♂	Ca-tu	Ca-tu	Kai-teha-mo	Gun-djir-i	Gun-djer-a (wal-ker)	Nain-ya	Ca-tung	D ¹ agd D
	12e0♀	Ca-tu	Ca-tu	Kai-teha-mo	Mur-ga-wil-li	Mo-kul-wal-ker	Be-pa	Ca-tung	
Mo.Br.S.S.	121r♂	Ca-wel	Ca-wel	Kai-kai	Kai-ki	Wa-tuk	Gula	Kai-kung	C ¹ agd C
	121r♀	Narn-di	Narn-di	Na-mar-ku-la	Nam-bir-i	Nom-ber-a	Ma-ma	Narn-ding	
Mo.Mo.Br.	122r♂	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Dja-bur	Ma-rel-ker-ong	D ¹ agd D
	122r♀	Mo-kul (ru-mer-u)	Mo-kul (ru-mer-u)	Mo-kul (ru-mer-u)	Be-o-pi	Mo-kul-nar-ki	Be-pa	Mo-kong	
Mo.Mo.Br.S.S.	123r♂	Ca-wel	Ca-wel	Kai-kai	Kai-ki	Ka-per-a	Gula	Kai-king	C ¹ agd C
	123r♀	Narn-di	Narn-di	Na-mar-ku-li	Nam-bir-i	Ram-ber-a	Dja-ma	Narn-ding	
Sis.Son	124e♂	Wa-ku	Wa-ku	Ko-kol-ngö	Ka-pir-i	Ka-per-a	Mu-la	Wa-kung	C ¹ agd C
	124e♀	Wa-ku	Wa-ku	Ko-kol-ngö	Rum-bir-i	Ram-ber-a	Mu-la	Wa-kung	
Fa.Sis.Dtr.	125e♂	Gur-rong	Gur-rong	Nan-ko-mung-o	Gur-rong	Gur-rong	Dja-bur	Gur-rong	D ¹ agd D
	125e♀	Gur-rong	Gur-rong	Nan-ko-mung-o	Gur-rong	Gur-rong	Dja-bur	Gur-rong	
Mo.Mo.Br.S.S.	126e♂	Wa-ku	Wa-ku	Ko-kol-ngö	Ka-pir-i	Ka-per-a	Mu-la	Wa-kung	C ¹ agd C
	126e♀	Wa-ku	Wa-ku	Ko-kol-ngö	Rum-bir-i	Ram-ber-a	Mu-la	Wa-kung	
S.S.	127e♂	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Ma-rel-ker	Mar-ai-teha	Ma-rel-ker-ong	A ¹ agd A
	127e♀	Mo-mel-ker	Mo-mel-ker	Mo-mel-ker	Ma-rel-ker	Ma-rel-ker	Mar-ai-teha	Mo-mel-krung	
Mo.Br.S.S.	128r♂	Gal-le	Gal-le	Gal-li	Mun-nin-ni	Mon-nuk	Yir-um-bi	Gal-le-in	B ¹ agd B ²
	128r♀	Gal-le	Gal-le	Gal-li	Mun-nin-ni	Mon-nuk	Min-wi	Gal-le-in	
Mo.Mo.Br.S.S.	129e♂	Mar-i	Mar-i	Mar-mo-ko	Me-dji	Mon-no-nok	Djir-da	Mar-ing	A ¹ agd A
	129e♀	Mar-i	Mar-i	Mar-mo-ko	Me-dji	Mon-no-nok	Djir-da	Mar-ing	
Mo.Mo.Br.S.S.	130e♂	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-wal-ker	Na-tchi-tchi	Nai-djuk (kar-mal-a)	Dja-min-a	Na-tchi-wal-ker	B ¹ agd B ²
	130e♀	Mo-mel-ker	Mo-mel-ker	Mo-mel-ker	Na-tchi-tchi	Nai-djuk (kar-mal-a)	Dja-min-a	Mo-mel-krung	
Dtr.Son	131e♂	Ca-wel	Ca-wel	Kai-kai	Kai-ki	Ka-per-a	Yir-um-bi	Ka-min-ter-ung	B ¹ agd B ²
	131e♀	Ngarn-di	Ngarn-di	Na-mar-ku-li	Nam-bir-i	Ram-ber-a	Yir-um-bi	Ka-min-ter-ung	
Fa.Sis.Dtr.	132e♂	Wa-ku	Wa-ku	Ko-kol-ngö	Ka-pir-i	Ka-per-a	Djir-da	Ku-tar-ang	A ¹ agd A
	132e♀	Wa-ku	Wa-ku	Ko-kol-ngö	Rum-bir-i	Ram-ber-a	Djir-da	Ku-tar-ang	
Fa.Sis.Dtr.	133e♂	Ca-wel	Ca-wel	Kai-kai	Kai-ki	Ka-per-a	Yir-um-bi	Du-mun-gur	B ¹ agd B ²
	133e♀	Ngarn-di	Ngarn-di	Na-mar-ku-li	Nam-bir-i	Ram-ber-a	Yir-um-bi	Du-mun-gur	

F.F.F.F.F.Sis.Dtr.Dtr. = F.F.F.F.Sis.Dtr.
 = Dtr. = Son = F.F.F.F.Sis.Dtr. = F.F.F.F.Sis.
 = F.F.Sis.Dtr. F.F.F.Sis.Son = F.F.Sis.
 = Son = Dtr. = F.F.Sis.Dtr. F.F.Sis.Son = F.Sis.
 = Son = Dtr. = F.Sis.Dtr. F.Sis.Son = Sis.
 = Son = Dtr. = F.Sis.Dtr. F.Sis.Son = Sis.
 = Son = Dtr. F.Sis.Dtr.Son = Sis.Dtr.
 = Dtr. = Son = S.Dtr.Dtr Sis.Dtr.Son = Dtr.Dtr.

east of Cape Stewart, south of the Arafura sea, west of the Gulf of Carpentaria, and north of a line running on the base of Blue Mud bay to the headwaters of the Walton river in the west.

The following tribes are included: Murng-in, Yer-nung-o, Bu-rer-a, Yan-djin-ung, Djin-ba, Ri-tarng-o, Da-i, and Bar-la-mo-mo.

Structure: There are 71 relatives and 7 lines of descent with 5 generations considered in the Murngin type of kinship structure. The Murngin system has asymmetrical cross-cousin marriage as its fundamental mechanism. A male can marry his mother's brother's daughter but not his father's sister's daughter, while a female marries her father's sister's son but she cannot marry her mother's brother's son. The author, in his second paper on the Morphology and Functions of the Australian Murngin Type of Kinship (AA 33: 188-196), has contrasted and compared the Murngin structure with that of the Arunta (Wanderung) and Kariëra (Gunwinggu) terminology. The terminology is also given detailed consideration in that paper as well as the first paper on Murngin kinship (AA 32, no. 2).

D. Larakia

The Larakia and Wulna peoples, who were located around Port Darwin before the tribes were destroyed by white settlement, were described by Spencer as having an un-Australian type of kinship system (see Appendix). I was fortunate enough to obtain a number of informants (six in all), from whom I ascertained that the two tribes possessed a kinship structure very similar to the Murngin, but a more simple and undeveloped type. The memories of the old men were such that it was impossible to work out the total kinship structure, and it may be that it was much further developed than the facts I collected indicate. Chart VII shows that a man marries his mother's brother's daughter but not his father's sister's daughter, and that a woman marries her father's sister's son but not her mother's brother's son. They are like the Murngin in this respect. There were no moieties or sections connected with this system. The fragmentary evidence seemed to verify Spencer's conclusion that they had patrilineal groupings and that the man inherited his group from his father. One of my informants belonged to the Frog group. His father was a Frog, his mother a Crocodile. A man, by force of his totem, if for no other reason, had to marry into another group. My informant said, "Frog cannot marry Frog." There was a strong mother-in-law tabu. The Larakia and Worgait's (the latter tribe had symmetrical cross-cousin marriage) frequently intermarried, and two of my informants attempted to construct the ordinary symmetrical type of cross-cousin marriage and Kariëra form of kinship structure for me, but were

unable to complete it and usually dropped back into the asymmetrical type of kinship structure when attempting to remember the workings of their tribal organization.

Terminology: Larakia terminology shows a tendency for identical terms for each alternate generation. If the reader will turn to Chart VII he will notice that father's father's sister has the same term as older sister, while son's daughter has the same term as younger sister. In the first ascending generation to the left of ego the female term nallagunyi and the male term nagunyi of one generation will be found to correspond with the first ascending generation in the first patrilineal line to the left of ego. In ego's own generation, in the first patrilineal line to his left, will be found the female term nallo and the male term na(w)o. If the reader will look two generations below ego and in this same patrilineal line, he will discover these same terms. In the second patrilineal line to the left of ego the principle of identity of terms for alternating generations will also be found operating. Unfortunately the complete terminology of the kinship system could not be gathered owing to the destruction of Larakia culture by white civilization.

There is a strong possibility that the Larakia might have had terms of affinity as well as consanguinity. Because of the confused material gathered I have not included the fragmentary set of terms which seemed to indicate this.

E. The limited family's relations to the extended kinship groups.

It cannot be too strongly stressed that the Australian *restricted* family forms the most fundamental element in the whole of Australian social structure. Most writers have failed to point this out, because of their interest in the *extended* family and the structures built from such extensions. The moiety instead of dividing the family strengthens it and forms one of the chief mechanisms by which the whole tribe is co-ordinated into a functioning unit.

Of the immediate family only ego's mother belongs to the opposite moiety from ego's own. Ego's father, brothers and sisters are in ego's own moiety. Such a structure then accents the fact that, although ego's sister has moved into a different group and her children and husband belong to another moiety, she has not been separated from her own Family of Orientation and still belongs to the same part of the tribe into which she was born; on the other hand, she, as a mother and wife, is tied to her new Family of Procreation which has been formed by her marriage and later bearing of children by such socio-biological ties as: (1) regulated sexual intercourse with her husband, (2) nursing and care of her children with the normal

attachment of a mother and her young children, and (3) mutual economic help.

Her children belong to her husband's moiety. Thus, from the point of view of moiety, she does not belong to this new family, but actually she does. Her position in the new family is further strengthened by the operation of the levirate, which keeps her from going back to her father's family in the event of her husband's death and making the new alignment unstable. Her husband and his brothers, from the point of view of all of their relatives, including herself, are sociologically the same; and since the biological content of this position does not matter in such a situation, but the sociological problem of stabilizing tribal social structure through use of the extended family does, and since the inheritance of one's brothers' wives forms the chief permanent lateral binding of the two lines of descent, she is looked upon as belonging to the new group. Thus we have a well-balanced system of keeping the restricted families (Orientation and Procreation) intact by looking upon the women of a tribal group as belonging to their fathers' families as members of the moiety or of the patrilocal group and to their husbands' group when the levirate principle is active.

There are other sociological features which demonstrate that a woman belongs to both families. If a fight took place between a woman's brothers and other members of the tribe, she would help her brothers; if between her husband and others, she would aid her husband; but, if between her husband and her brothers, she would attempt to stop them and would remain neutral.

The reciprocal activities between "father-in-law" and "son-in-law" also bind the two families together. The young man through his whole life makes presents to the older man in the expectation of obtaining his daughter in marriage and later, because he possesses her. The older man also makes presents to the younger. They are usually mutually helpful if either gets into a fight.

II. LARGER GROUPINGS OF THE KINSHIP PERSONALITIES OF THE TRIBES

Several of the tribes do not possess any of the usual larger groupings of the kinship personalities (sections, subsections, and semi-moieties) found in the greater part of Australia. They are Mullikmullik, Worgaits, Larakia, Wulna, Umbagarla, Kakadu, and Iwaidja.⁹ They compose a group of people running from the Iwaidja at Cape Don in the north to the Mullikmullik at Pearce's point, near the Victoria river, and the Indian ocean in the south. The eastern border of these peoples averages about 50 miles in

⁹ See the Appendix to this paper.

distance from the seacoast and corresponds roughly to the coastal plain of the area. Melville and Bathurst islanders, on the western side of Van Diemen's gulf, are also without these familiar arrangements of Australian kin. The rest of the tribes considered in this paper all possess some type of larger kinship grouping.

There are two main varieties, which have been called the Murngin variety of subsections and the Wandurung semi-moieties for the purposes of this paper. Each variety has several tribes included in its group and has been named after one of the tribes within its order to simplify the description of the type.

A. Murngin

This subsection system is but the northern extension of the typical Arunta form described by Radcliffe-Brown.¹⁰ The author of this paper found no tribe in the area studied which possessed the ordinary Kariera section system (four groupings of the kinship personality).

There are two main varieties of the Murngin sub-section system, one of which (Variety 1) is articulated to the normal Arunta type of kinship grouping and the other (Variety 2) is associated with the Gunwinggu and Murngin forms of kinship structure.

Variety 1: The following tribes have this variety: Mungarai, Yungmun, Mudbura, Malngnin, Ngrainmun, and Warduman. The northern border runs from the Fitzmorris river in the west to the headwaters of the Flying Fox in the east, where it connects with the Wandurung and Murngin type of larger groupings. These Mungarai tribes in the south connect with the normal type of Arunta subsections found in northern Central Australia.

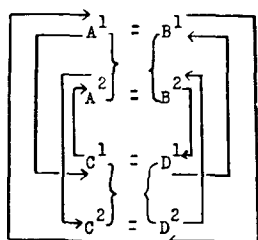
Variety 2: The Murngin variety of the Arunta subsection system found among the tribes listed here is but a change in the normal subsection arrangement which, instead of articulating the subsection system with the normal Arunta kinship structure, regroups the Kariera type of kinship structure into eight units instead of four, or it is articulated with the normal Murngin type of kinship. (See page 73 for Murngin kinship structure.) In the Murngin subsections which connect with the Gunwinggu type of kinship (Kariera) the eight subsections are modified to fit the requirements of this form of kinship by incorporating some of the elements of the Kariera section system. The marriage rules are those of the Kariera type. A¹ and A² are grouped as A for the purposes of marriage, since they can marry either B¹ or B². This grouping forms the eight subsections into four sections for the purposes of marriage.

¹⁰ See W. Lloyd Warner, AA 32, no. 2, and Oceania, 1, no. 3: 331.

The father's section is not considered in the descent of the child. It does not matter whether he is A^1 or A^2 , or if he belongs to a wrong subsection, but the mother's subsection does count—if she is B^1 her children will be D^2 ; if she is B^2 , they will be D^1 . The descent of the children follows the rules of a normal Arunta system where descent is traced through eight subsections instead of four sections; the marriage, the rules of a normal Kariera type.

In Chart VIII it will be seen that ego's father's positions are D^1 and D^2 . This means that ego's biological father and his biological father's brothers have two subsections instead of one as in the ordinary Arunta type. Normally in the Arunta type, if ego is A^1 , his father must be D^1 , but among these northern people ego's father can be either D^1 or D^2 . In ego's own family he may be A^1 because his mother was C^2 (see Chart VIII) while his brother by the same father could be A^2 , because the latter's mother was C^1 .

Chart VIII
Murngin Sub-sections (Arunta)



This disturbs one of the fundamental principles of Australian kinship—that is the equivalence of all brothers and, in the north, of brothers and sisters. Since brothers can belong to different subsections of a section, the native has overcome this isolated contradiction to the rest of his social structure by saying that the members of the two subsections are "just the same as brothers." When an important sacred ceremony occurs which attracts the members of many tribes they are treated accordingly and no distinction is shown between them.

Further, one of the chief functions of the eight subsections system in the north is demonstrated. Most ceremonies in the north are intertribal. The greater the number of tribes represented, the more pleased is the local tribe where the ceremony is being held. The people along the lower reaches of the Goyder river frequently have visitors from the Mary river country and the tribes from the Roper's tributaries.

A glance at the map shows us that at least three distinct types of kinship are represented: Kariera (Gunwinggu), Murngin and Arunta (Mun-

garai). The kinship names of each are very different, whereas the subsection names are quite similar and for a great many tribes exactly the same. When at one of these ceremonies people from a distant country are nearly always called by their subsection names and not by kinship terms. Further, two men belonging to the same subsection look upon themselves as brothers and those in the marrying subsections opposite them ($A^1 = B^1$ or B^2 ; $A^2 = B^1$ or B^2) as wives and wives' brothers, which shows that in reality the functions of the subsections in the north are primarily international and secondarily local. However, in ego's own tribe he might be hailed by his subsection name or he might call his wife by such a term. Even the small children address each other by their subsection names. The subsection, then, is not so much a mechanism regulating marriage, since the kinship term—mother's brother's daughter or mother's brother's daughter's daughter—decides that, but it is an addition to the extended family and classificatory system. This further extends the classificatory method to include all peoples into further simplified kin-groupings. Instead of 21 possible relatives in the Karia type that one would meet at an intertribal ceremony, one would only have eight terms for all individuals, and instead of 71 terms for the Murngin type, one need only know the eight subsections. This eliminates the obvious difficulty facing the elders of attempting to solve what the classificatory relationship is of two men, let us say, from Elcho island and the Mary river. Whereas, if a man says he is Dju-la-ma (Mudbura) when he arrives in camp the old men say "that's all the same as Buralung [Murngin] here." The peoples of all tribes know what the equivalent subsection terms are of nearby groups of people with different subsection terms. Adjacent tribes usually have the same terminology for their subsections.

The Murngin sub-variety in the northeastern part of Arnhem Land articulates with the Murngin type of kinship structure, as can be seen from the charts.

B. Wanderung Semi-Moieties¹¹

Around the base of the Gulf of Carpentaria and at the mouth of the Roper river are a group of tribes (first six in Chart III) who possess the normal Arunta type of kinship, but have a totally different grouping of the kin. Each tribe has four named divisions, but instead of the son being in a

¹¹ See Oceania 1, no. 1: 40 (in addition to the "Mara, Anyula, Nullikin, Yikul, and Wanderung" tribes listed by Radcliffe-Brown as possessing moiety structure, Karawa and Allowa should be added); 1, no. 3: 332, Spencer and Gillen, Northern Tribes of Central Australia: 76-132.

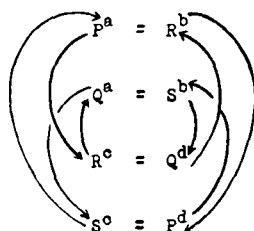
different division from his father, as in the normal section systems, he remains in the same group (see Chart IX). If the father is P, the son is P. This gives each of the four patrilineal lines a name (see *Wanderung* in Chart XI) and creates a condition where there are two named divisions in each moiety.

Marriage is exogamous. Ego cannot marry into his own or the group belonging to his side of the tribe. Not only is he excluded from these two groups, but he cannot marry into his mother's group of the opposite moiety. He must marry into one of the groups of the other moiety. If ego's mother is R or S he will always be P, but if his mother was R, his wife must be S, and his son's wife R again.

This creates an alternation of generations of mothers and of wives which suggests an interesting possibility. Let us suppose each P who married R were given a special name to indicate such a marriage rule and that each P who married S were given an individual name to indicate that his group

Chart IX

Wanderung Semi-Moieties (Mara)
(after Radcliffe-Brown)



always married S, and this were universal throughout the four named patrilineal lines; such an arrangement would create a typical eight-subsection system of the Arunta type.

If the reader will look at Chart IX he will see ego with P followed by an A^1 and below P with a D^2 . By following these powers through and comparing them with Chart VIII he will find that they are exactly the same. Under the four *named* patrilineal line system that prevails, each line has only one name under the Arunta system, and each line has two names that alternate by generations.

Whether the Mara semi-moiety's type is a modification of the Arunta form, or whether the Arunta system comes from the Mara system, or whether they are both but modifications of an earlier form cannot be proved. There are facts supporting any one of these hypotheses.

It will be noticed in examining Chart IX that each patrilineal line has

two alternating subsections. In ego's line (beginning with father's father), A is followed by D and D by A and A by D. In mother's mother's brother's

Chart X Murgin Sub-Section Terminology

		Billinara, Nraimnun, Mudburra, Malngin, Wardaman	Mung'-ar-ai Yung'-min	Dja-u-un	Mai'-al-li, Ma'-in, Cun-wi-n-gu W. Rein-barn-g-o, Cun-a-wi-tch-i, Nar-kar-a, Pu-rer-a	Mung'-in, Djinda, Pi-terng-o, E. Rein-barn-g-o, Mandi, Nalbon, Nungebuya, Yandjinung, Yeer-nung-o
A ¹	♂	Dju'-la-ma	Pur'-a-la	Nal'-din-wait	Na-waw'-gait	Bur'-a-lung or Ka-li-int or Ka-lin
	♀	Na-u-la	I-war'-la	Nal'-din-wait	Nal-waw'-gait	
A ²	♂	Djung'-a-la	Gang'-i-la or Pa-djer-i	Nar'-din-gang'-i-la	Nang'-i-la	Bal-lung
	♀	Nung'-a-la	Yung'-a-la	Nal'-din-gang'-i-la	Na-lang'-i-la	Be-ling or Bi-ling-djint
B ¹	♂	Djan'-e-ma	Nar-it'-be-lin	Nar'-din-da-u-la or Nar'-it	Nung'-ar-it	Na-rit
	♀	Nen-ni'-gu	I-wan'-ai	Nal'-din-da-u-la or Nar'-it	Nal-nar'-it	Nar'-xi-ti-in
B ²	♂	Dji'-mi-dji	Bur'-lain	Nar'-din-bur'-lain	Nar-bur'-lain	Bur-lain
	♀	Na-mi'-dja	I-mid	Nal'-din-bur'-lain	Nal-bur'-lain	Bur-lain-djint
C ¹	♂	Djung'-ar-i	Bang'-ar-in	Nar'-din-bang'-ar-i	Nar-bon'-ar-di	Koi-djawk or Kai-djawk Koi-tjin
	♀	Nung'-ar-i	I-bong'-ar-i	Nal'-din-bang'-ar-i	Nal-bon'-ar-di	Bang'-ar-di
C ²	♂	Djal-yir'-i	Pal-yer'-in	Nar'-din-palyerri	Na-go'-djawk	Bang-ar-di-tjin
	♀	Nal-yir'-i	I-wal-yer'-in	Nal'-din-palyerri	Nal-go'-djawk	Wa-mut Wa-mu-tjin
D ¹	♂	Djan-bi'-djia	Dja-bi'-djia	Nar'-din-wa-mut	Na-a-mut	
	♀	Nam-bi'-djia	I-dja-bia-a	Nal'-din-wa-mut	Nal-wa-mut	
D ²	♂	Dja-bar-da	Ka-mar-a	Nar'-din-ka-mar-dung	Na-mar-dung	Ka-mar-dung
	♀	Mi-mar-a	Yain-mir-a	Nal'-din-ka-mar-dung	Nal-ka-mar-dung	Ka-mar-dung Ka-min-dji'

line, A by D and D by A, etc. This alternation of names found here is a 100 per cent correlation with all alternations of kinship terms described

earlier in this paper. Frequently the native confuses the kinship term with the subsection term in the mother's father's and mother's mother's brother's lines of descent. The fact that there are two names for each of these individual relatives (the kin and section name) indicates that the native does see them as separate and distinct systems, but also the confusion of such names shows further that they are looked upon somewhat as the same thing and serve the same general functions.

The various types of kinship systems articulated to the two types of larger groupings and their sub-varieties create the following groupings:

1. Larakia-Wulna: There are no sections, sub-sections, or semi-moieties found in this area; the kinship system is Murngin in general form.¹²

CHART XI. WANDERUNG SEMI-MOIETIES

Semi-Moiety	Wanderung, Mara, Yikul, Allowa	Annula	Karawa
P ^(a¹, d²)	Ma-rung-ün	Wa-u-gar-i'-a	Wa-u-gar-i'-a
Q ^(a², d¹)	Mom-bäl'-lī	Mum-bäl'-lī	Mūm-bal-mīr'-a
R ^(b¹, c¹)	Pur'-dāl	Pur'-dāl	Wu-dal-mīr'-a
S ^(b², c²)	Guī'-yāl	Wī-a-lī'-a	Wī-al-mīr'-a

2. Mullikmullik: This includes all the tribes found from the Iwaidja in the north at Cape Don and running in a narrow band down the Indian ocean's coast to the Mullikmullik in the south. They have the Kariera type of kinship structure but no sections or subsections or any form of larger grouping of the kinship personalities.

3. Gunwinggu-Murngin: These people, found in central Arnhem Land east of the peoples just described, have the Kariera type of kinship with the Murngin variety of subsections.

4. Murngin-Murngin: This group includes the eight tribes in north-eastern Arnhem Land which have the Murngin variety of kinship with the Murngin type of subsections.

¹² C. W. M. Hart, *The Tiwi of Melville and Bathurst Islands*, *Oceania* 1, no. 2: 167-180; also *Oceania* 1, no. 3: 333; and Spencer, *Native Tribes of the Northern Territory of Australia*.

CHART XII WANDERING

GROUPING OF KIN INTO MURNGIN SUB-SECTION SYSTEM

A ^(1 and 2)	B ^(1 and 2)
Ego	
Fa.Fa.	Fa.Mo.
Mo.Mo.	Mo.Fa.
Older & Younger Brothers	Mo.Br.Son
Sister	Mo.Br.Dtr.
Son's Son	Dtr's. Son
Son's Dtr.	Dtr's. Dtr
C ^(1 and 2)	D ^(1 and 2)
Mo.Br.	Father
Mother	Fa.Sis.
Sis's. Son	Son
Sis's. Dtr.	Dtr.

GROUPING OF KIN IN SEMI-MOIETIES

P ^(a¹, d²)	R ^(b¹, c¹)
Fa.Fa.	Fa. Mo. Br.
Fa.Fa.Sis.	Fa. Mo.
Father	Fa. Mo. Br. Son
Fa. Sis.	Fa. Mo. Br. Dtr.
Older Brother	Fa. Mo. Br. Son's Son (wife's Br.)
Younger Brother	Fa. Mo. Br. Son's Dtr. (wife)
Sister	Fa. Mo. Br. Son's Son's Son
Son	Fa. Mo. Br. Son's Son's Dtr.
Daughter	Fa. Mo. Br. Son's Son's Son's Son
Son's son	Fa. Mo. Br. Son's Son's Son's Dtr.
Son's Dtr.	
S ^(b², c²)	Q ^(a², d¹)
Mo. Fa.	Mo. Mo. Br.
Mo. Fa. Sis.	Mo. Mo.
Mo. Br.	Mo. Mo. Br. Son
Mother	Mo. Mo. Br. Dtr.
Mo. Br. Son	Mo. Mo. Br. Son's Son
Mo. Br. Dtr.	Mo. Mo. Br. Son's Dtr.
Mo. Br. Son's Son	Sis. Son
Mo. Br. Son's Dtr.	Sis. Dtr.
Dtr's. Son	Sis. Dtr. Son
Dtr's. Dtr.	Sis. Dtr. Dtr.

5. *Mungarai-Murngin*: These people have the ordinary Arunta type of kinship structure articulated with the normal Arunta type of subsections, of which the Murngin is but a modification.

6. *Mungarai-Wanderung*: In this group the normal Arunta type of kinship structure is articulated to the normal Mara-Annula (*Wanderung*) semi-moiety groupings.

7. *Mungarai-Ingura*: On Groote Eyelandt and Bickerton island the Ingura tribe has a normal Arunta type of kinship structure articulated to a probable variant of the semi-moiety system found among the *Wanderung* and other tribes on the southwestern base of the Gulf of Carpentaria. The author had two informants from this area who spoke but very little English, and it was necessary to work with an interpreter who belonged to another tribe. It may be possible that they also possess a typical *Wanderung* semi-moiety system, but there seemed to be sufficient evidence from the rather chaotic account I received from them to demonstrate that it varied very considerably from the usual form found in the Mara-Annula type of grouping.

APPENDIX

A. RELATIVE WORTH OF THE FIELD MATERIAL OF THE VARIOUS AREAS STUDIED

The field work for this paper was done under the auspices of the Rockefeller Foundation and the Australian National Research Council during the years 1927-1929. A large amount of genealogical material was gathered for a study of the kinship systems of the eight tribes who possess the Murngin type of kin grouping as well as for the subsections of the same people. A sufficiently large number of genealogies was collected to determine what type of kinship structure and subsections are found among the tribes to the west of the Murngin. The *Wulna* and *Larakia* people are the least satisfactory of the lot, since their whole social organization has been destroyed largely by white intrusion, and one is dependent upon the memories of old men for the facts on their former kinship system. The author places less reliance on his conclusions for this area than any other studied. He was not in the *Victoria* and *Daley* river regions or on Groote Eyelandt, but had informants in the tribes from the three areas. There is also a possibility that the results for these areas are not as conclusive as they are from the others. However, it is fairly certain the material on the general structures of the tribes of these latter areas which is presented here is accurate and reliable.

B. CRITICISM OF SPENCER AND GILLEN'S PUBLICATIONS ON NORTH AUSTRALIAN TRIBES

The Melville and Bathurst peoples listed by Spencer, pages 5-7 of his *Native Tribes of Northern Australia*, were discovered by Mr. Charles Hart to be called the Tiwi and are one tribe. The "Airiman" of Spencer, according to native informants from that tribe, call themselves Ngrainmun and are so listed in this paper. Spencer's Geimbio, placed on his map to the east of the Kakadu, are the Gunwinggu. In the family group (Fig. 9, opposite page 6 of the *Native Tribes of Northern Australia*) are two men and seven adult women, all of whom are listed as Geimbio people by Spencer. While I was in their area my Gunwinggu informants, who took a keen interest in pictures of aborigines, identified by name each of these people, gave their relationship term for them, and said they were all Gunwinggu. The people called by Spencer "Umoriu" are the Maung. I have changed Spencer's spelling of the Kallaua to Allua, since all my informants insisted upon this pronunciation. On page 52 of the *Native Tribes of Northern Australia*, after describing the Kakadu tribe's kinship system under the general heading of "Tribes without Class Organization," he lists the Geimbio as having no subsection system. This is incorrect, as my evidence demonstrates.

In pages 54-65 Spencer discusses the subsection and semi-moiety system of the Warduman, Mudburra, Yungmun and Mungarai. He lists them all as having eight subsections, with which I agree, although our terminology does not entirely check. He lists the Mara and Nullikin as having a semi-moiety (named patrilineal lines), with which I also agree.

I do not agree with Spencer's findings on the Kakadu or the Djauun. See footnote 3 in this paper.

C. GENERAL EXPLANATION OF CHARTS

Charts I, III and V present the three major types of kinship structure in North Australia (I, Kariera; III, Arunta; V, Murngin). If the reader will look at the first vertical column on the left of Chart I, he will see at the head of the column the title "English Descriptive Terms." Below that are the abbreviated terms in the first column of older brother, younger brother, older sister and younger sister. At the second vertical column from the left, he will notice the heading "Karawa" and below that the terms ba-wa and ba-ba-ban-ya, and in the same square and below the last two terms ma-dju and ba-ba-ban-ya once again. This column laterally corresponds with the older brother, younger brother, older sister and younger sister descriptive terms found in the first column and means that in the Karawa tribe older

brother is called *bawa*, younger brother is called *bababanya*, older sister is called *madju* and younger sister is called *bababanya*. Going through the uppermost lateral line (the older brother-younger brother, et cetera line), one can very quickly determine just what the native term is for each descriptive kinship personality and one can also trace terminological connections or lack of connections between the various tribes. For example, Karawa's term for older brother (*bawa*) and the four tribes' Allowa, Anula, Mara and Yikul term for older brother, *baba*, show a very obvious connection. Mungarai, Mudburra, Ngrainmun, and Warduman, in Chart III, all show, with slight phonetic shifts, this same close connection in their term for older brother. The reader can then glance through Charts III and V, and he will see, by using the same method, that there is also either duplication of this term for older brother or a very close approximation of it. Obviously the similarity of one term does not prove any close connection, but by going through the list of the English descriptive terms and comparing the native terminology in each tribe it is possible to show definite areas of very close connections and other areas which are separate and distinct.

The last vertical column on the right of the three charts gives the subsection to which each kinship personality belongs; for example, in the first lateral column is found A^1 which means that these four kinship personalities all belong to the subsection A^1 . The reader can then turn to the appropriate subsection or semi-moiety chart (X and XI) and find out the name of each subsection for each tribe, or he can turn to the structural charts (VIII and IX) and see the exact place where the kinship personality and the subsection groupings of these personalities are placed in the total kinship system or he can look at Chart XII to locate the English descriptive terms as they are grouped in their subsections or semi-moieties.

The Murngin kinship terminology is so extensive that our ordinary English descriptive terms are inadequate and frequently confuse the student rather than help him. Because of this the writer has devised a set of symbols to describe where the various kinship personalities can be found in the Murngin kinship system (see Chart VI). These symbols will be found in Chart V in the second vertical column at the left of the page. The system of symbols is based on the two fundamentals of generation and lineage.

It would perhaps be better to take a specific example to explain the way the symbols work. I pick at random in the column the square which is the fifth from the bottom of the page. In the first column the English descriptive terms will be found, which are mother's mother's brother's son's son's son's son and mother's mother's brother's son's son's son's daughter. In the second column (the one we are describing) will be found

the following symbols after each of these descriptive terms: II $d2r\sigma^{\nearrow}$, II $d2r\varphi$. The Roman numeral II means second generation, the d means descending, the Arabic 2 and the r symbolize the fact that the relative can be found in the second line of descent to the right of Ego and the arrow indicates that the relative is a male. The second set of symbols in the same square is exactly the same as the first except for the female sign.

In other squares it will be noticed that following the Roman numeral I or II will be found an 'a' instead of a 'd'; the a stands for "ascending." It will also be noticed that instead of the r we have just described an l will be used, which means that the relative is so many lines to the left of Ego. The only other variation is that at the top of the column will be found a zero for the generation symbol, which means that this relative is in the same generation as Ego, and therefore is neither an ascendant nor a descendant in relation to him. Ego's own line is also designated as a zero line since he is in it.

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A PERUVIAN MULTICOLORED PATCHWORK

By LILA M. O'NEALE

WITH one or two possible exceptions modern hand- and machine-woven textile fabrics find their counterparts among specimens from the prehistoric graves of coastal Peru. However, that statement cannot be reversed. Numbers of fabrics from the looms or other appliances of prehistoric weavers are not made by hand workers today, nor could they be manufactured on our most complicated machinery. One such textile type has been named "multicolored patchwork."¹ There is an element of ambiguity within the term: "patchwork" ordinarily describes a stitching together of fabric portions already woven. In the case of the Peruvian examples to which the term is applied, the entire construction was accomplished on the loom. Probably needles were used for weaving the smaller design elements, but that does not imply a sewing process. In these patchworks each colored set of warps, regardless of its length, is crossed only by weft of its own color. Both warps and wefts of adjacent motives interlock. It has been assumed, after successful reconstruction of the technique, that transverse yarns upon which to set up the short warp lengths must have been stretched across the weaving frame.² These scaffold wefts were generally withdrawn upon completion of the pattern; a neglected remnant here and there afforded a valuable clue in the analysis.

At the time the technique was described it appeared from the data in hand to be confined to the southern area of coastal Peru. Examples from Early Nazca, Paracas, Early Cañete, Epigonal Nazca, Ica and Nazca of the Middle and Late Ica periods, and a single example from Late Chincha have been examined. Practically all of the specimens from these sites are simply patterned in checks, stepped crosses, and fret motives. An exception to this generalization should be made in speaking of the Epigonal Nazca fragment, which is an elaborate representation of the human figure.³

The finest patchwork specimen I have analyzed is from a Supe Middle Period site, presumably San Nicolas,⁴ a fact which carries the distribution of the technique completely out of the southern area. The piece (catalog number 4-7827) is from the Max Uhle collections in the University of California Museum of Anthropology. Unlike any other specimens examined, this one shows the use of the patchwork in the lower half of a man's

¹ UC-PAAE, 28: 39, 40, 41, 49-51, 1930.

² *Ibid.*, fig. 9.

³ *Ibid.*, pls. 6a, 19, figs. 8, 10.

⁴ Same series, 21: 236, 237, 1925.

tunic. The garment has been torn crosswise, but the two portions fit together with almost no loss of fabric.

The unusual features of the Supe specimen are notable. First, as to construction, the garment is complex. All tunics are rectangles of various sizes. All are folded on their crosswise centers and seamed down the sides below openings left for the arms. There is no evidence from any site that a larger piece of fabric was ever cut to reduce it to a rectangle of the necessary proportions. Occasionally, an adult's tunic is formed of a single web in which case the neck opening is provided by a kelim tapestry slot about fifteen to twenty inches in length. The large majority of tunics are formed by seaming together two webs. The joins come at center front and back. In these tunics a space for the neck opening is left in the seam. A very few

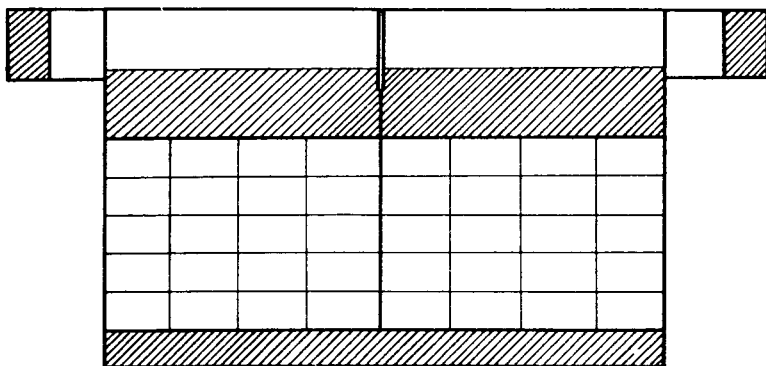
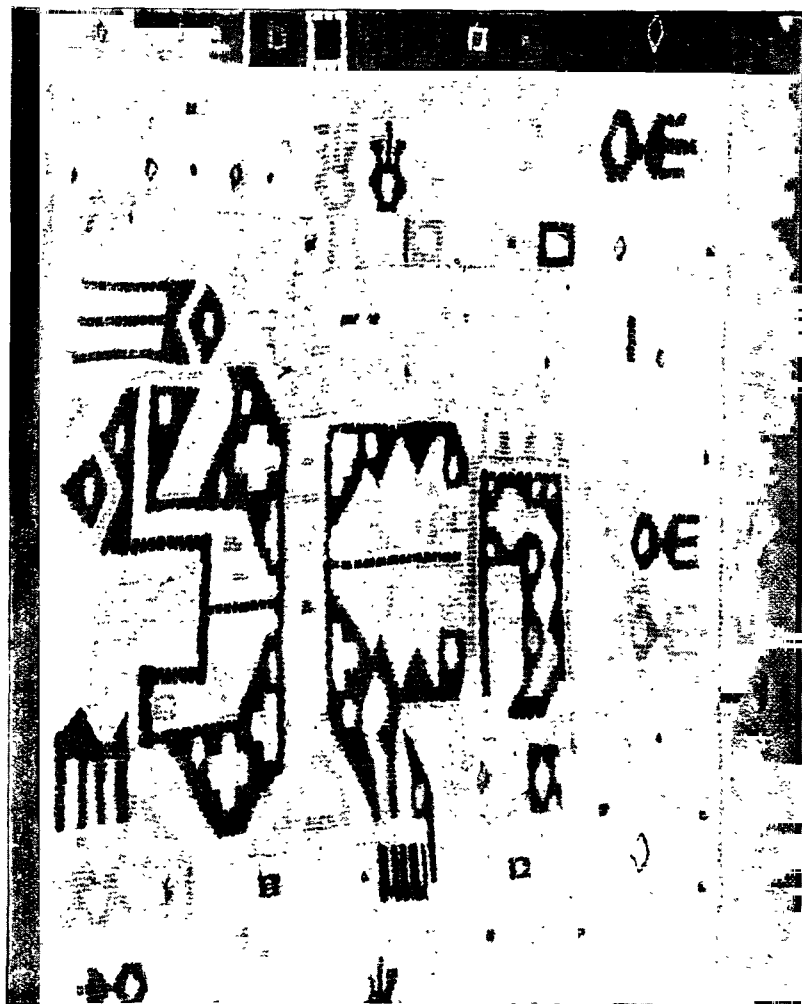


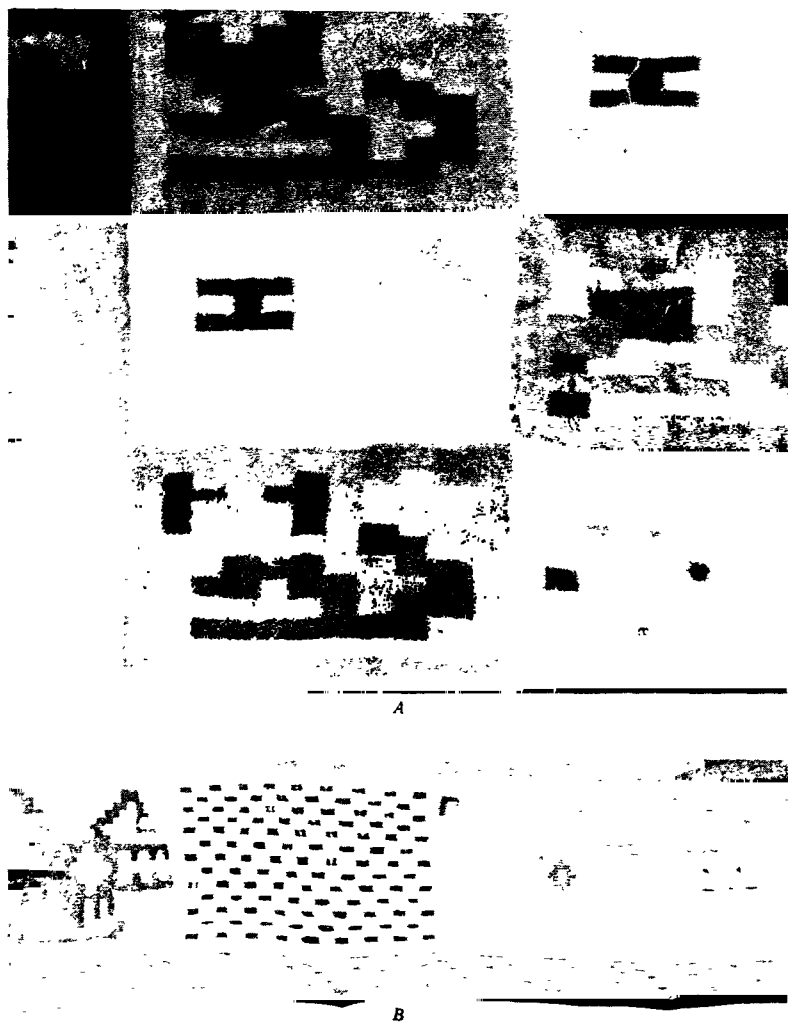
FIG. 1. Diagram of tunic showing construction by seaming together twelve separately woven webs: upper body (2), lower body (4); lower border (2), sleeves (2), cuffs (2). Tapestry indicated by hatching, interlocking plain weave patchwork section indicated by blocks.

tunics have sleeves, small complete webs sewn to the armseye openings. All the tunics so far examined fall under one or the other of these three types. The Supe tunic is unique in having required twelve separate webs in its construction. The warps for each web were independently set up on the loom, and each web has four intact selvages. Except for the warps in the long tapestry borders on the lower edges, all warp yarns run the length of the tunic (fig. 1). The seaming stitch for all sewn edges in this particular specimen is the modern whipping or overhanding stitch. It is done with a loosely twisted brown cotton yarn, which represents a grouping of eight hard-twisted, single-ply elements.

In addition to the numerous webs joined to make the garment, there are also an unusual number of techniques in evidence. The two webs for the



Supe Middle Period Tapestry of Kelim Type



A. Supe Middle Period Multicolored Patchwork
B. Supe Middle Period Wide-slot Kelim Tapestry

upper body are twenty-five inches long. The portion which goes over the shoulders is a fine plain weave cotton fabric. The quality may be seen above the border in plate 1. At each end of these two webs there is a seven-inch band of kelim tapestry. The repeated design motive is characteristic of the Tiahuanaco, or Highland style of decoration: the running or kneeling bird-man figure with rectangular mouth element, elaborated headdress, extended arm and staff, and ornamented girdle. The inner edges of these borders are not finished in the ordinary manner. There seems to have been a well-established convention among Peruvian weavers, in all localities, that a tapestry border growing out of a plain weave fabric—a border made on the same warps as the plain weave fabric—should be set off definitely from the plain portion by a narrow band or by a series of monochrome tapestry stripes. In the Supe tunic a stepped fret motive in kelim technique has been developed within the plain weave; the fret seems at once part of both plain fabric and tapestry portions.

The multicolored patchwork section is seamed to the lower edge of the wide band of tapestry (pl. 2a). In contrast to the general heaviness of the closely woven border, the patchwork appears light. Its lower edge is given weight by a tapestry band about three inches wide (pl. 2b). There are two varieties of kelim or slot tapestry weaving within this lower border, the occurrence of which again demonstrates the versatility of the Peruvian weavers. In one type of kelim technique, the more common, the worker edges every design element with a narrow line of contrast color. She does this by wrapping single warps with the contrast yarn. In weaving the second type of kelim, she relies upon the lacy effect given by the slots as much as upon the solidly worked elements to furnish the design interest. The wide-slot kelim is not found among the specimens from the southern sites with which I am familiar. In the collections from central and northern valleys there are several examples.

The Supe tunic with its dozen separate webs and several techniques illustrates a variety of problems incidental upon the manipulation of weaving materials. The number of warps and wefts per inch within a fabric indicate a spinner's and a weaver's technical skill. In constructing a garment made up of several webs, the weaver either must have yarns of uniform size, or she must handle the different yarn sizes so as to achieve a uniform texture. For instance, approximately one half of the rectangular grounds in the patchwork section are of single-ply, crepe-twist cotton yarn; the remainder are of the usual double-ply, medium-to-slack twist wool yarn. The cotton warps are operated in pairs, thus making them nearly the size of the wool warps. The counts for warps and wefts per inch run as follows:

white cotton rectangle fields	88-120 by 36-40
brown cotton rectangle fields	76-104 by 28-34
red wool rectangle fields	48- 54 by 30-40

The animal figures in the patchwork section show great variation in sizes of yarns and their manipulation. In most Peruvian textiles the wool yarns are more nearly of uniform size than in the Supe specimen. Here the yellow yarn is unusually coarse; it counts thirty-two warps per inch by sixteen weft. The counts of the other colored yarns in the patchwork section range from thirty-six to forty warps by twenty-eight to thirty weft per inch. The tapestry borders in this tunic are only average in quality of workmanship. Tapestry requires heavy warps which are completely covered by tightly packed weft yarns. The wide border in the tunic has seventeen cotton warps and a hundred forty-four double-ply wool weft yarns per inch; the narrow border at the lower edge of the garment has twenty-eight cotton warps and a hundred twenty double-ply wool weft yarns per inch. The finest tapestry examples are from the southern sites of the middle period. Nazca tapestries often show a count of half again as many yarns each way to the inch as are found in the Supe piece.

By comparison with other examples of the patchwork technique, the Supe tunic has a more interesting design arrangement and color distribution than any so far examined. The four webs, which seamed together form the lower half of the garment, will be treated as two units in the discussion and diagrams which follow; the weaver evidently considered them as units forming the front and back sections of a garment. Each separate web developed in the patchwork technique is blocked off into five courses of four rectangles each,—eighty in the whole garment. Sizes of blocks vary slightly, the usual measurement being four to five inches along the warp by six to seven inches weftwise. Except for the center front, center back, and side seams between webs, joins on all sides of the rectangles are made solely by the interlocking of yarn elements. It is this interlocking warp and weft feature which has peculiar interest as evidence of high technical development. But aside from the interest aroused by an intricate technique, there cannot but be admiration for the weaver who so consistently followed a sequence involving a group of seventeen colors. The tunic, as mentioned before, is badly torn, and a few edges are frayed, but in only two instances are design elements wholly missing. The yarns are bright, and there could be little argument as to which color name best describes them. The list together with the abbreviations used in the diagrams is as follows:

W White, the natural creamy color of cotton and wool yarns

Br 1 Brown, the natural, light color of the Peruvian brown cotton

- Br 2 Golden brown
R 1 Red, the familiar Peruvian red with slightly yellowish tinge
R 2 Rose, generally bright
R 3 Pink
R 4 Violet-red, in this textile, a slightly lighter tone than R 1
B 1 Blue, dark and bright
B 2 Green-blue, medium in tone
B 3 Turquoise blue, light and bright
Y Yellow, slightly orange
G 1 Yellow-green, dark in tone
G 2 Yellow-green, medium in tone
O Orange, dull
Gr Gray, slightly purple, the modern "taupe"
P Purple, dark and dull, the modern "mauve"
Bl Black, slightly bluish

Insistence upon attention to a rhythmic color sequence begins with the rectangular patchwork fields. The brown and white grounds are of undyed cotton yarns; the red grounds are wool of the standard, slightly yellowish tinge. As may be seen by the vertical columns in the diagram (fig. 2)

\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1			\mathcal{B}_1	\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}		
\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1			\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}	\mathcal{R}_1		
\mathcal{B}_1	\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1			\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1		
\mathcal{R}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1			\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1		
\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}			\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1	\mathcal{W}	\mathcal{R}_1	\mathcal{B}_1	\mathcal{R}_1	\mathcal{B}_1		

FIG. 2. Diagram to show diagonal progression of brown, red, and white grounds in multicolored patchwork section of tunic.

certain combinations of ground colors are repeated more often than others. Even the more frequently repeated groups, however, are not arranged in a fixed sequence. In effect, there is a regular sequence because the diagonals of red, brown, and white are so pronounced as to obscure the lack of a vertical or a horizontal rhythm. The breaks in sequence which occur at the side seams are noticeable only when the patchwork section of the tunic is viewed as a whole. Apparently, perfect lines of color under the arms were not part of the weaver's plan, but she did have in mind the unity of the front and back garment sections as proved by the unbroken sequences crossing their center seams.

A feline figure centers each of the patchwork rectangles. All figures within the two webs forming the front of the garment face in one direction; all those within the other two webs face the opposite direction. Each cat

figure is a duplicate of the seventy-nine others with respect to the angles and areas within its make-up although the proportions, as may be expected in hand work, vary considerably. But the most remarkable single feature of the Supe tunic is the consistency with which the weaver used her colored pattern yarns. Each cat motive is subdivided into seven distinct color areas, no one of which is ever merged with any adjacent area (fig. 3). The largest area is the body portion. That and the ears are woven in the same color yarn, whichever one of the seventeen is used. The face, eyes, tail, upper paw and lower paw are the remaining subdivisions. Attention is first held by the aggressive diagonal lines of color forming the rectangle backgrounds;

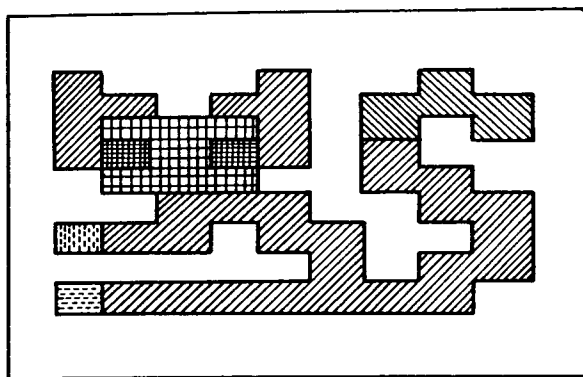


Fig. 3. Feline design motive of multicolored patchwork section showing subdivision into color areas.

after that details force themselves upon the notice. Each subdivision of the design motive plays a part in the emphasis upon the diagonal: bodies are of the same color within each diagonal line of rectangles; face, eye, and tail colors maintain their own rhythmic sequence; even the upper paw adheres to a rhythm independent of that followed by the lower paw. How rigidly this conventional treatment is held to may be seen from the accompanying schematic representations of the patchwork sections of the tunic (figs. 4-9). The comparatively small number of breaks in sequence are indicated by crosses. In a very few instances a weaver used two colors of yarn within the same small motive; in other instances she completed a series of pink motives with one or two woven with rose yarn, or substituted dark gray for black. Even such legitimate color substitutions are resorted to only in cases of smaller subdivisions. It seems reasonable to consider a sequence unbroken if carried out by colors within the same family, although every such variation has been included among the breaks in rhythm.

B ₁	Y	R ₂	G ₂	R ₂	B ₁	O	R ₂
Y	R ₂	G ₂	R ₂	B ₁	O	R ₂	W
R ₂	G ₂	R ₂	B ₁	O	R ₂	W	Gr
G ₂	R ₂	B ₁	O	R ₂	W	Gr	O
R ₂	B ₁	O	R ₂	W	Gr	O	R ₂

Y	B ₁	R ₂	G ₁	R ₂	Y	B ₁	R ₂
B ₁	R ₂	G ₁	R ₂	Y	B ₁	R ₂	G ₁
R ₂	G ₁	R ₂	Y	B ₁	R ₂	G ₁	R ₂
G ₁	R ₂	Y	B ₁	R ₂	G ₁	R ₂	O
R ₂	Y	B ₁	R ₂	G ₁	R ₂	O	B ₁

R₃	B₃	B₂	R₂	P	R₃	B₃	Y
B₃	B₂	R₂	P	R₃	B₃	Y	R₂
B₂	R₂	P	R₃	B₃	Y	R₂	R₂
R₂	P	R₃	B₃	Y	R₂	R₂	R₂
P	R₃	B₃	Y	R₂	R₂	R₂	B₁

B ₃	R ₃	P	R ₂	O	B ₃	R ₃	Gr
R ₃	P	R ₂	O	B ₃	R ₃	Gr	R ₂
P	R ₂	O	B ₃	R ₃	Gr	R ₂	O
R ₂	O	B ₃	R ₃	Gr	R ₂	O	B ₃
O	B ₃	R ₃	Gr	R ₂	O	B ₃	R ₃

B₂	Gr	P	W	B₂	B₂	R₂	W
Gr	P	W	B₂	B₂	R₂	W	~~B₂~~
P	W	B₂	B₂	R₂	W	B₃	O
W	B₂	B₂	R₂	W	B₃	O	R₃
B₂	B₂	R₂	W	B₃	O	R₃	G₁

R ₂	O	B ₃	W	Bl	Gr	O	B ₃
O	B ₃	W	Bl	Gr	O	B ₃	W
B ₃	W	Bl	Gr	O	B ₃	W	G ₁
W	Bl	Gr	O	B ₃	W	G ₁	Gr
Bl	Gr	O	B ₃	W	G ₁	Gr	O

R₂	G₁	~~R₂~~	Gr	Y	R₂	Gr	~~Gr~~
G₁	R₁	Gr	Y	R₂	Gr	G₁	~~B₁~~
R₁	Gr	Y	R₂	Gr	G₁	R₂	R₃
Gr	Y	R₂	Gr	G₁	R₂	R₃	B₂
Y	R₂	Gr	G₁	R₂	R₃	B₂	R₂

B ₁	R ₂	Y	P	R ₂	G ₁	R ₂	O
R ₂	Y	P	R ₂	G ₁	R ₂	O	P
Y	P	R ₂	G ₁	R ₂	P	P	W
P	R ₂	G ₁	R ₂	O	P	W	R ₂
R ₂	G ₁	R ₂	O	P	W	R ₂	R ₂

R₂	Gr	O	~~W~~	G₁	R₂	~~Gr~~	~~B₂~~
Gr	O	Gr	G₁	R₃	~~Gr~~	Y	R₂
O	Gr	G₁	R₃	~~R₂~~	Y	R₂	W
Gr	G₁	R₃	~~R₂~~	Y	R₂	W	R₂
G₁	~~R₂~~	~~R₂~~	~~Gr~~	R₂	W	R₂	R₂

R ₂	W	G ₁	Gr	O	Gr	R ₃	R₂
W	G ₁	R ₂	O	Gr	R ₃	G ₁	R ₂
G ₁	R ₂	O	Gr	R ₃	G ₁	R ₂	B₂
R ₂	O	Gr	R ₃	G ₁	R₂	Gr	Gr
O	Gr	R ₃	G ₁	R ₂	Bl	R₂	R ₂

Y	~~R₂~~	W	Gr	~~Gr~~	W	R₂	~~R₂~~
~~R₂~~	W	Gr	~~B₁~~	W	R₂	B₁	~~R₂~~
W	Gr	~~B₁~~	W	R₂	B₁	G₁	R₃
? ~~Gr~~	W	R₂	B₁	G₁	R₂	~~B₂~~	~~B₂~~
? W	R₂	~~Gr~~	G₁	R₃	~~B₂~~	O	~~B₂~~

B ₁	R ₃	Bl	W	Bl	Gr	Y	R₂
R ₃	B ₁	W	Bl	Gr	Y	R ₂	W
Bl	W	Bl	Gr	Y	R ₂	W	Y
W	B₁	Gr	Y	R ₂	W	Y	B ₃
B₁	B₁	Y	R ₂	W	Y	B ₃	W

FIGS. 4-9. Schematic representations of multicolored patchwork sections to show maintained color sequence in feline-motive details: fig. 4, body and ear areas; fig. 5, tail areas; fig. 6, face areas; fig. 7, eye areas; figs. 8, 9, upper and lower paw areas. Breaks in rhythm indicated by crosses.

We are more or less accustomed to complicated color sequences in the tapestries, embroideries, and knitted fabrics from ancient Peru. These textiles, to judge from their designs, seem to have allowed the maximum freedom from the usual technical restrictions. But the multicolored patch-works of all periods must have required considerable skill in addition to an appreciation of aesthetics. To manipulate a single length of yarn so that it became not only warp and weft within a patch, but coincidentally created four selvages interlocked to the selvages of as many other adjacent patches is a technical feat. To add to a problem of such proportions a self-imposed adherence to a complicated color rhythm is manifest proof of an ambitious craft ideal.

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THE TYPOLOGICAL METHOD IN ARCHAEOLOGY

By V. A. GORODZOV¹

THE term "typological method" was introduced into science by Blenwell in 1816. In the second half of the nineteenth century it was adopted by archaeologists, remaining, however, without systematic exposition and clearly defined rules. This last circumstance served as the stimulus for the present article.

Many Western European archaeologists have made attempts to apply the typological method to archaeological material without discussing its theoretical foundations, and, as a result were not in a position to demonstrate its entire significance.

So far as these applications of the typological method go, they are very interesting, but on the whole they represent unfinished attempts at a systematic study of the material archaeological remains from this point of view.

The theory of every scientific method demands its justification in the demonstrated laws of existence and development of the phenomena in question. At the basis of the theory of the typological method as applied to the industrial material dealt with in archaeology lie: (1) the principle of causality, (2) the principle of evolution, (3) the principle of borrowing, (4) the principle of the "struggle" for survival of artifacts.

The law of causality in the industrial sphere asserts that the archaeological remains recovered by excavation are the results of a previous series of artifacts which have existed in universal history. The appearance of the first material archaeological objects was due to the forces of nature. Subsequently man became conscious of them as objects necessary for his existence. Such objects were: stones, branches of trees, egg-shells, etc. The application of the principle of industrial causality to the data at any period in time and space opens up the possibility of understanding the past and prognosticating the next stage in human industry. At the end of the Neolithic period the best form of axe was of a flat adze-like type (fig 1*a*). Knowing this, it is easy to predict that the first metal axes will be of this

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form. In reality, the most ancient copper axes are of flat adze-like type, repeating the form of flint polished axes of the end of the Neolithic period (fig. 1*b*).

The principle of industrial evolution is a development and continuation of the principle of industrial causality. It deals with the process through which one phenomenon is transformed into a genetically related type. The copper adze-like axe in the palæo-metallic epoch became widely distrib-

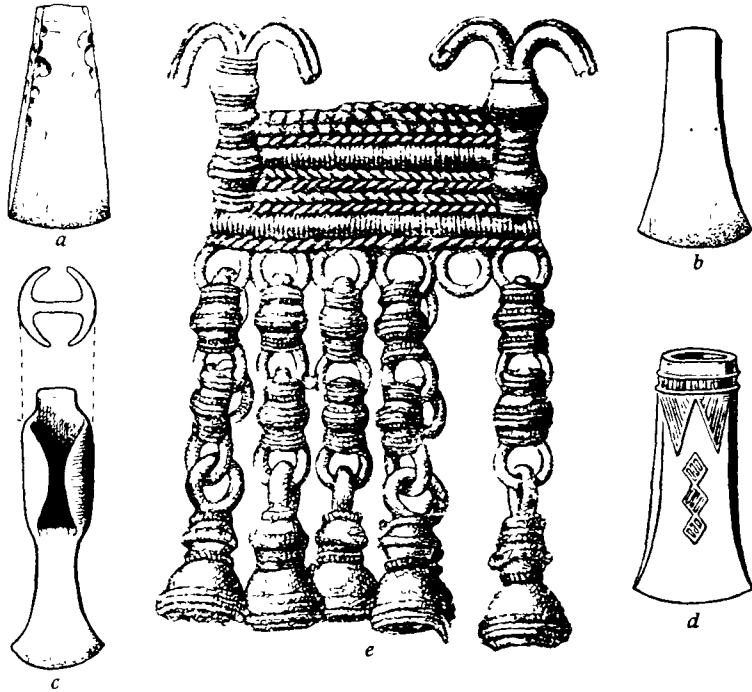


FIG. 1. *a* The flint polished adze-like type of the Neolithic epoch *b* The copper axe of the early part of the Palæometallic (copper) epoch *c* Bronze winged axe. *d*. Bronze celt *e* The Moscow type of pendulum with six chains.

uted, penetrating from the Near East to Western Europe and Eastern Asia. Its chief defect was the butt, which was poorly adapted for hafting. This was noticed both in the East and in the West. To improve the hafting in the West, there were added to the butt end of the axe special flanges on the edges (wings) to go around the haft in order to fasten it more firmly to the blade. As a result a characteristic type of axe arose with four wide wings bent in pairs towards each other to form two braces, thus considerably

strengthening the connection with the haft (fig. 1c). In the East for the same purpose the butt end was given a downward depression, finally transforming it into a socketed celt (fig. 1d) with a perforation for the nail and a loop for the attachment of a strip of leather, by means of which the best possible method of fixing the axe head to the haft was reached.

The series of changes, which led from the flat adze-like axe into the winged palstave and socketed celt, illustrates what is customarily called evolution. The evolutionary process may proceed very slowly but sometimes is very rapid and may take place almost suddenly.

The principle of industrial borrowings and coincidences² explains the similarities of corresponding phenomena, arising at different points in space and time. Both principles, as well as the preceding one, are the continuation and development of the principle of industrial causality.

The principle of industrial borrowings explains the similarity by transmission of a form of culture from one human group to another. It may happen that among one group the phenomena will cease to exist while still continuing in another, and as a result one may derive the impression that similar phenomena existed in different points of space and time, without any genetic connection between them. This type of phenomena it is customary to explain by the law of coincidences, though in reality the similarities are to be explained through industrial borrowing. Thus, among the natives of Formosa, there is a custom of blood-brotherhood whereby two friends pour wine into a vessel and mixing it with the human blood drink it simultaneously from the one goblet. An absolutely identical custom of blood-brotherhood once existed among the Scythians. How are these customs, identical in substance although separated in space and time, to be explained? One can answer perhaps: "the principle of coincidences," and remain satisfied; or one can answer: "the principle of borrowing," and thus provoke a deeper investigation of the problem.

It was demonstrated that the rapidity of intertribal industrial borrowing depends largely on the cultural status, adaptability, and the means at communication; it was shown likewise that inventions and discoveries made in one territory will reach another after a certain period of time; and finally, that the beginning of an acquaintance with the new invention and discoveries in other regions cannot be considerably later than the end of the use of them in those regions whence they were received. This last assertion offers the possibility of dating certain phenomena.

When the reasons or causes of similarities in industrial phenomena are

² V. A. Gorodzov uses this word equivalent to our "parallelism."

unknown, they are to be explained by the law of coincidences. These occur quite often, but the number of these cases in archaeology decreases with the increase of knowledge.

The principle of the struggle of industrial forms for survival comes into force in any culture as soon as there is a conflict between two or more industrial phenomena serving the same function. Thus, the appearance in the territory of Western Europe of copper-bronze socketed celts gave rise to their struggle with the copper-bronze palstaves, which resulted in the complete defeat of the latter, as having less adaptability to the demands of economic life. It is interesting that in the struggle for survival the palstave gave to the celt some of its exterior characteristics in the form of certain ornamental elements. The wings of the palstave and its narrow form, for example, are reproduced on socketed celts.

When the significance of the above principles is taken into consideration it is not difficult to erect on the basis of their operation the theory of the typological method. This theory demands the subdivision of all material simple objects into categories, groups, genera, and types. It is clear that the typological method leads to the clarification of the action of the yet undiscovered new principles involved in the development of industrial phenomena and the discovery of their real significance and meaning by classification. At the basis of this classification is placed the *type* which is understood as a collection of objects similar in function, material and form.

The types connected by one quality—outside of their form—compose the genera.

The genera connected by one quality, outside of their material, form the categories.

All archaeological simple objects (*traits*), then, may be divided into categories, categories into groups, groups into genera, and genera into types.

The principle of classification of *categories* should be the purpose or function of types; of *groups*, the material of types; of *orders*, the form characteristic of the types; and of type the peculiarity of its form. Let us illustrate this by means of arrowheads. All arrowheads exhibit a single purpose: to strengthen the force of the arrow thrown at the target,—therefore, they all should be included in one category. Accordingly the material of arrowheads is easily divided into groups: stone, bone, copper, bronze, iron, etc. arrowheads; according to the form of the lower end, serving for hafting, the groups should be subdivided into genera: socketed, tanged and untanged; and genera, by the form of upper striking ends, into types: flat, triangular, square, etc. If the types are connected with the locality, it is well to call them accordingly, for instance, the type of Seima celt, the type

of Moscow six chained temple *pendulum* (shestilopastnáya visochnaya priveska.) etc. (fig. 1c).

In the classification of archaeological material collective groupings which confuse categories and types should be avoided. For example, "axes" should not be included in one category, as they contain in their complex such different functions as battle axes, ceremonial axes, decorative axes, each of which should form a separate category. Likewise the type of an axe should not be called, say, socketed because under this terminology could be understood many types of socketed axes.

Without sufficient practice in typological classification, such mistakes are often made; nevertheless, the aim should be to attain ideally clear divisions, and collective groupings which include types and categories should be used only as the preliminary stages of the scientific analysis of the material.

In a correctly formulated classification by means of the typological method all classes should be governed by the same principle of division, and interconnected, while the types should exclude each other. This answers the demands of biological, or, as it is sometimes called, psychological classification.

From the above discussion the originality and self-sustenance of the typological classification is easily seen. It is akin to the Linnean classification of biological species only in its form but stands far apart in the principles utilized in the division of its phenomena. Still, it should be borne in mind that the typological classification is based on classification of species, and in order to escape certain mistakes on the typological classification it will be well to refer to the biological classification as one rich in experience and observation.

At present it is interesting to note that both systems of classification suffer from similar defects: in biological classification of species the most difficult is determination of the species, almost the same difficulty is met in the determination of a type.

To better illustrate the difficulties in the determination of the species, let us take some facts from the work of a professor of zoology, S. N. Bogolubsky, *The Origin of Animals*, Moscow, 1927. He says: "In the XVIII century Buffon characterized a species as a succession of multiplying organisms, similar among themselves," Lamarck in the beginning of the XIX century as "a group of organisms similar among themselves and originated from other similar organisms." Ch. Darwin considered the conception of species absolutely arbitrary and invented only for facility. Its concrete substance, in his opinion, could be only "the concept of a separate act of crea-

tion." Terms such as species, subspecies, variety, according to Darwin, are very arbitrary and subjective. "There is no doubt," he says, "that the definite border line is not established between species and subspecies, or forms, which, according to the naturalists, are very near, but do not completely answer the concept of the species." De Vries introduced the concept of elementary species, understanding by it those complexes of wild forms, which, branching on several bio-species, and being cross-bred, remain constant. The "elementary species" are not separated but interconnected by the extreme variations. Their number in Linnean species is sometimes very large. *Drabaverna*, for instance, has over two hundred; the common violet has also a very large number. Among the latest formulation of species, the opinion of Asa Gray (1879) can be cited, that the concept of the species demands two elements: (a) unity of origin, (b) similarity of the content of the individuals. According to Doderlein (1902) "In one species should be included (a) the sum of all the organisms answering the diagnosis of the well established norm; (b) all forms deviating from one basis, but closely connected with it through the intermediary forms, and finally (c) all forms which are clearly connected genetically with the latter. The famous botanist Klebbe (1905) says that the species includes all individuals which multiply in the manner of plants or by self-fertilization, and in the similar general conditions display correspondingly similar characteristics. The noted psychologist-systematist Jorden (1905) says that "the species is a simply arbitrarily chosen term, comprising such members of the given group which, being similar among themselves, clearly differ from other groups and are not connected, as far as we know, with other groups by transitory forms." Kronaher (1916-1919) thinks that it is impossible to give an exhaustive definition for species, variety, and race. The species of organisms, in his opinion, differ in the possession of hereditary units of some morphological or psychological characteristics.

From the foregoing sketch of the situation with respect to the determination of the concept "species" in the biological sciences, the predicament involved is clearly seen. Similar difficulties exist in the definition of the concept "type." In our definition, the type is a collection of objects with the same functions, material, and form. Only those types conform absolutely to our definition which may be said to be modeled or pressed out of the same mold and out of the same material. Any group of such objects will present the ideal type. Still such ideally clear types are rare and do not exhaust all archaeological material which in the majority of cases is in reality made without any molds, consequently it is necessary to enlarge our concept of the "type," including in it objects more or less similar in

their form. However, as soon as we do this, all the defects of the definition of the type become evident.

In many cases it is very difficult to group archaeological material into types, and such classification by necessity will have to be arbitrary and subjective. Still, all these difficulties, as far as may be judged from experience, are not so large as in biological classification. Especially since the latter, in spite of all of its defects, has given us immeasurably profitable results for the study and the sequences of biological forms, there is little reason to doubt that similar beneficial results may ensue from the scientific application of the typological method in archaeology.

In scientific classifications of species, the terminology is of great importance. A similar importance inheres in the terminology of typological classification. Only the happily applied term will live. The misapplied ones are still-born. The latter difficulty is especially applicable to terminology derived from contemporary languages, when maximum expressiveness is demanded. In the biological system of classification the terms adopted are taken from a "dead" language, Latin, to escape the insurmountable difficulties of the living tongue.

The experience of the Moscow School of Archaeologists has shown that the introduction of Latin terminology in typological classification is possible, and even necessary, especially because such classification may receive international application.

The typological method demands, after the classification of objects is finished, a detailed description of them according to classes. This description should be short, expressive, but exhaustive. It should include all that is necessary and nothing else. In the description it is necessary to show (1) the distribution, (2) the period at which types, genera, groups, and categories are known. The description of categories should precede the description of the group; the description of the group—that of orders; the description of orders—that of types. The description of each higher class should appear as being the deductive introduction to the description of the immediately subordinate class. The description should be accompanied by the schematic maps of distribution of types, to show the area of distribution of each type, and interrelation of the areas of different types among themselves.

It should constantly be borne in mind that the *purpose* of the typological method is the accurate determination of each type in space and time, so that in the final analysis it will be possible to give to each type of archaeological objects the meaning of a hieroglyph, with the help of which one will be able to read the history of the material and social culture of all extinct

generations of humanity and of the industrial era of its development. The study of material of archaeological finds, with the help of the typological method, is the study of the alphabet of natural hieroglyphs. This should be followed by the correct reading of collective archaeological remains,—— the objective reading, expressive and full of ideological contents, and enable us to decipher all secrets of material life of the extinct groups of humanity from which material survives. Not a single social science can compete in this respect with archaeology, which is dealing with material remains by a correctly worked out typological method.

It is not hard to predict that archaeology itself will take its place among the most accurate sciences and will become an indispensable connecting link between natural and social sciences.

Moscow

U.S.S.R.

THE BLUEJAY DANCE

By HARRY TURNEY-HIGH

THE Dance of the Bluejay is probably the principal expression of the hopes and woes of the Montana Salish. It is performed but once a year, near Arlee, generally about one week after the New Year, though sometimes as late as the first of February. As the time approaches, the Salish assemble, and with great care and devotion scrape away the snow and remove all debris from the place where the Medicine Lodge is to be erected. After the ground is seen to be clean, the lodge is set up by joining many tipis so that they form a long hall with a common roof. It is doubtful if in ancient times the tipi was used for this purpose, as it is apparently intrusive from the Plains at a relatively recent date and at first used only when on the hunt or during the season of bitter-root and camas gathering. Within the lodge many poles are set upright and other lodge-poles are fastened upon them in the manner of rafters. The use of this frame will be discussed later.

Three days before the ceremony is to begin, the shamans, who are called quasquays in Salishan, assemble and begin their purification rites. For these three days they sit in the sweat-house, an important trait of this culture, stewing in their own perspiration, praying to their personal "medicine," called in Salishan *sumesh*, and rigidly abstaining from all food and drink. This *sumesh* is usually in the form of an animal who became the guardian of the man at the time he developed into a quasquay.

When the time for the ceremonial has arrived, all members of the tribe who have some ailment to be cured, some ambition to be fulfilled, as well as those who are merely interested, assemble in the *sumesh* lodge. Within its walls no one may wear shoes or moccasins or bring in any article of clothing or otherwise which was made by the white man. The dancing then begins, led by the quasquays. The shamans themselves have no elaborate costume or paraphernalia. They are dressed only in breech-clouts, their faces entirely blacked with charcoal. No other paint is used, nor is any other part of the body smeared.

The dance itself consists of regular hops in the same rhythm as the music. Aside from rattles made by stringing deer hoofs on thongs, the music is entirely vocal. No drums or flutes are used. This dance is very tiring to the Indians, and as it is kept up until dawn, many become exhausted. But no one may leave the lodge to rest or sleep without the permission of the quasquays, else the success of the affair is endangered and ill fortune will follow the refractory. There is apparently no difference in the dance as performed by the quasquays and the people. The folk form

two long lines down the sides of the lodge, and they do their utmost to increase the hysteria of the shamans, who dance up and down the rows.

No food may be taken by anyone during the night, nor by the quasquays at any time. The first night is spent in singing and dancing in the above fashion.

When the sun has gone down, and the dance of the second night begins, the sick lie down before the quasquays. These shamans are specialists in certain kinds of disease and illness, and do not profess to cure any outside their specialities. Furthermore, they do not attempt to cure the lame or defective. Sickness cannot be acquired through natural causes. It is invariably the work of a hostile quasquay who has "thrown" his sumesh into the afflicted. Quasquays may do this for hire, should a person wish to be avenged on any enemy, and the fee must be good. But the quasquay professes considerable hesitation at this, as the practitioner may die of his own medicine. Should, for instance, the sumesh of the quasquay be the Blue-jay, he will throw a feather into the vital organs of an enemy. Unless this is removed by another medicine man, the victim will surely die. If, however, another medicine man successfully removes it, the perpetrator will die unless he can persuade his sumesh to accept his client as a victim. Once the malevolent force is released, someone must suffer. And since in primitive life disease generally meant death, this fiction was not hard to maintain.

Even in sport, however, there is great rivalry among the quasquays of the tribe. Wherever there is an assembly of Indians one of the principal sights is the contest of shamans. Each tries to out-sumesh his rival, throwing his medicine into him, and by craft avoiding that of the other. The quasquay who has successfully repelled the sumesh of the others, and who has visibly affected his rivals, gains great prestige. In the annual encampments on the flats at the head of the Bitterroot valley near Missoula, the quasquays of one camp continually try to bewitch the other camps, sometimes merely for amusement, at other times to keep them from finding the highly prized bitter-root, the staple delicacy of these people.

By this time in the dance, the Bluejay sumesh has begun to possess the quasquays, and they undoubtedly perform cures of an hysterical nature, as do the faith-healers of the whites.

By this time also the people have become somewhat hysterical and the quasquays entirely so. The old men of the assembly decide that it is time to allow the quasquays to "go wild," and suddenly dash out the various fires built down the length of the lodge, leaving all in complete darkness. At this the quasquays are entirely possessed by the Bluejay, in fact become bluejays, and begin to "speak in tongues," talking backwards, in gibberish,

and making bluejay sounds. They profess to have no knowledge of what they say, and persons are delegated to remember all their words and noises, so that they may use them for prophecy and prediction when they have recovered from the influence. Wildly they run about the lodge, everyone avoiding their touch, as the person touched by a quasquay in this Saturnalia will faint on the spot. Chirping and cawing they ascend the lodgepoles and run about the rafters with remarkable agility, perching and twittering in bird fashion.

About this time the "Bluejays" are seized with a desire to escape, and make every apparent effort to run out of the lodge. Effort is made to restrain them without touching them. Almost always some do escape, however, in which case they are carefully followed. The "Bluejays" run very rapidly, sometimes as far as two miles from the lodge. Usually they climb some tree much closer and perch in the branches until dawn, when they are coaxed down and back into the lodge. Should a quasquay succeed in escaping permanently with the Bluejay still upon him, he will run and hide in the Mission range, where he will die of starvation and sumesh. I have not discovered a recent case of this, and no doubt the care is not all on the side of the congregation.

All during this time the dancers are not permitted to talk, although the laity may do so during the day while outside the lodge. Care is also taken not to think, as during the fury the quasquays are capable of reading the thoughts of the dancers, and might blurt them right out regardless of their embarrassing nature.

The "Bluejays" are permitted to "go wild" until the beginning of the third night. Then the old men take those who are yet in the lodge and collecting those who are perching in the trees round about, smoke the spell out of them. A certain species of sweetgrass has been gathered beforetime for this purpose. This incense is slowly burned and the quasquays are held over the smoke until they regain their senses.

After this is done they are given a drink of sumesh water. Before the ceremony had commenced, the shamans picked certain youths of the tribe and gave them minute directions as to where to find the proper water. Just which stream was specified, and from which part of the stream the water must be taken, and they were instructed in every detail as to the route to take and the behavior to be followed both to and from the stream. Infraction of these instructions would bring great harm to the quasquay, who in turn would avenge himself upon the heedless youth.

When the quasquays become somewhat normal again they once more doctor the sick. Most people prefer to be treated at this time rather than

at the first clinic, as the quasquays could be expected to be more powerful after being seized with the Bluejay. This ends the third night.

As the dancing resumes for the fourth and last night, certain young men are detailed to go cut the sumesh tree. This is an evergreen of small size. When they return they set it up in the middle of the lodge after the fashion of a Christmas tree. The same monotonous dance is performed before the tree and prayers to the sumeshes are offered. As the night advances each person who has a wish prays and hangs a gift on the tree as an offering. These wishes run the gamut of human desires: success in the hunt, in gathering bitter-root and camas, success in love and hate. When everyone has hung his gifts on the tree, the shamans ask if everyone has completed his wish. If so, they give signal to a chosen man, who wraps the tree in a blanket as tightly as possible. This done, two youths seize the tree and, rushing down the two lines of dancers, flee with it to the wilderness, where they hide it. No one is supposed to find the tree. But if it should accidentally be found, the finder must not touch it or remove any of the offerings or terrific misfortune would overtake him. In the present civilized state of the Indians great disbelief in sumesh is voiced, especially by the young. But few of them will touch any of these offerings or do anything to enrage a quasquay.

The tree being removed, there is some sporadic dancing, then all depart.

Attempt has been made to ascertain if there is connection between this gift to the sumesh and the potlatch festivals of the North Pacific Coast. While the writer is personally convinced that there is some diffusion from the coast, it is very weak indeed. No one seems to acquire any prestige in the community by making expensive gifts, nor, on the other hand, does lavishness seem to gain any particular favor from the sumesh. However, there is a general feeling that big wishes demand big gifts, and that it is a wise act of supererogation to deck the tree as expensively as is convenient.

Though most of the very young Salish have had their ideas rather thoroughly "civilized" by Haskell, Rapid City, and the fathers and sisters of the St. Ignatius mission, belief in the potency of sumesh is far from dead. Persons of middle life may profess to disbelieve, but their actions belie them, and one suspects that they believe much more than their shame before the white man permits them to admit.

An amusing incident occurred in this region some years ago. An unusually severe winter had all but wasted the land. Cattle were dying in droves, as the snow was so deep that they could not paw down to the grass. Blizzard, starvation, and coyotes took their toll. The Indians saw that unless the mild Chinook wind came from the Pacific coast and melted the

snow, all would be lost. So the quasquays whose sumesh was the Chinook were told that the one who would produce the mild wind would be made a present of a good steer. Those whose sumesh was the blizzard were urged to restraint for patriotic reasons. Great was the rattling and dancing, the weather becoming even colder, until one by one the quasquays lost prestige. This pleased the fathers of the mission who proposed to the Indians that if they would make them the same present of meat, they would produce the Chinook. The offer was taken, and the fathers, wishing to destroy the influence of the quasquays once and for all, prayed mightily and performed their civilized ceremonial. Unfortunately, their results were no better than those of the shamans, and they, too, lost caste.

Now when everyone had made up his mind to starve, an elderly Indian around Hamilton offered to bring the Chinook. Dubiously the Indians took up his offer. But, indeed, after he had done a bit of desultory dancing, the Chinook did come and the saving grass appeared. The grateful people showered him with gifts, much to the chagrin of the quasquays and padres, and he became the most noted shaman of the region. Upon interrogation by a professor of the State University, the old man confessed that he was not a quasquay and had no sumesh at all. But he reasoned that the cold weather could not possibly last much longer and that he was bound to win. He enjoyed great reputation, however, until he died a few years later.

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CULTURAL SIGNIFICANCE OF THE GHOST DANCE¹

By ALEXANDER LESSER

FEW religious movements have been so fortunate in their contemporary chroniclers as the Ghost Dance of 1890 in the sympathetic record of James Mooney.² In his long historical account and commentary, Mooney enlarged upon earlier movements of a similar nature, ghost dance origins and sources, the doctrine, the forms of the dance, its psychological aspects in the trances, the spread of the religion in detail, the local forms of the religion among a number of the tribes, and the actual historical events which brought some tribes into conflict with the government over the doctrine. But Mooney's report was at once so voluminous and full a record, that since its publication there has been a tendency to regard the Ghost Dance as a closed book, finished and forever settled in this definitive treatment.

James Mooney investigated the Ghost Dance at intervals in the years from 1890 to 1893. Of his own work he states that his investigations brought "personal observation and study of the Ghost Dance down to the beginning of 1894."³ In his introductory remarks, Mooney comments that "the investigation . . . might be continued indefinitely, as the dance still exists [in 1896] and is developing new features at every performance."⁴ Thus Mooney himself recognized that he had not written the final chapter.

And in truth the Ghost Dance, like all vital cultural manifestations, was not, and could not be, an episode that had an arbitrary beginning and an arbitrary close. In human culture, as in human experience, what has come to attention and prominence never disappears. Either it is retained in some form as a part of culture thereafter, or it leaves its impress and influence upon other aspects of culture.

To measure the pulse of the Ghost Dance movement, Mooney found it necessary to consider the religious revivals of earlier American Indian prophets, demonstrating that no mere arbitrary point could be selected as the beginning of the Ghost Dance. In a passage of his concluding remarks, Mooney called attention to the fact that among some of the tribes which participated in the Ghost Dance, "the Ghost Dance has become a part of

¹ Read at the Annual Meetings of the American Anthropological Association and the American Folk-Lore Society, Andover, Mass., December 29, 1931.

² James Mooney, *The Ghost-Dance Religion and the Sioux Outbreak of 1890*. BAE-R 14, pt. 2, 1896.

³ *Ibid.*, p. 654.

⁴ *Ibid.*, p. 653.

the tribal life and is performed at regular intervals,"⁷⁵ indicating that no arbitrary date could be set upon its close. If the Ghost Dance did not suddenly arise, flourish, and disappear, but rather had a natural growth upon the basis of earlier culture in response to cultural needs, and after the excitement of its period of storm and stress settled down to become a more or less integrated part of a newer, changed culture, then Ghost Dance effects are a significant ethnological problem. For if the field ethnologist today is to penetrate to older levels of aboriginal culture, he must attend to the local Ghost Dance and mark off the changes it has caused.

According to James Mooney's concept of the Ghost Dance it was a movement of revolt, religiously directed, an attempt to throw off an alien yoke, and recover aboriginal freedom. In the course of that movement, the activities which composed it could not fail to influence directly the rest of culture. I should like to call attention to certain phases of this influence, of how changes which came about were related to the doctrine and to the activities of the dance. While I shall use facts from the Pawnee to illustrate my meaning, I believe that the general bearing of the point of view will be found relevant to the situation among other tribes.

The Ghost Dance spread among American Indian tribes at a time when the final destruction of native culture was well advanced. Perhaps the greatest destructive influence was not so much the influx of white settlers or the consequent appropriation of tribal lands, as the annihilation of the great herds of buffalo. With the disappearance of the buffalo, the economic stability and security of the Indian tribes vanished. In its place came want and hunger. A feeling of desolation which spread among these tribes made them ripe for any message of hope.

The Ghost Dance doctrine brought hope. It promised a destruction of the invading white man, a return of the buffalo and old Indian ways, and a reunion of the Indians and their deceased forebears. The last may well have been a Christian element, as well as the moral precept accompanying it that Indians were not to fight any more, but live together in one great brotherhood. But the sanction for this hope was native to the Indian mind. It was based on the vision, on the direct supernatural experience. In the vision a message came from the deceased, telling the living what to do, telling the living what would happen.

With the destruction of the buffalo and the influx of the white man, Indian ways of life were vanishing. This was clearly the case if we read the Pawnee story aright. The old Pawnee societies had long since ceased to function. Practically all these societies were concerned with war and hunt-

⁷⁵ *Ibid.*, p. 927.

ing. Intertribal warfare had been legally eliminated, although of course occasional skirmishes occurred. But the Pawnee steadfastly maintained their treaty obligations and avoided warfare with their ancient enemies, appealing, as in the case of the Sioux massacre of the Pawnee in 1873, to the federal government for redress. In the same way, tribal hunting became a memory. With the disappearance of warfare and hunting, the societies no longer had a function.

The great esoteric bundle ceremonies of the Pawnee had also ceased. The reason given by old men today is not a failure of belief, but the same failure of the supply of buffalo which destroyed many of the societies. A cardinal tenet of Pawnee ideology was the sacred character of buffalo meat. None but buffalo meat could be used in the great ceremonies; in fact, not only was buffalo meat essential, but in many of the bundle ceremonies buffalo concepts and orientations of powers concerned primarily with the buffalo were part and parcel of the ritual and ceremony itself. Without these aspects of the ritual and ceremony, the performance became meaningless.

The medicine-men's phase of Pawnee religion had not entirely died out. Many leading doctors who controlled the right to demonstrate dances had died, taking their esoteric teachings with them to the grave; but one or two Doctor Dances were still held almost every year. For these a sufficient supply of buffalo meat could be obtained, or the medicine-men themselves found justification for substituting ordinary beef for buffalo meat. The great Doctor Performances involving feats of magic and sleight of hand had ceased. The last one occurred among the Pawnee in 1878 or 1879.

The ordinary social activities of daily life had also broken down to a great extent. Most of the games were no longer played, or were revived here and there intermittently. Thus while in former times the spring was not only a time of great religious and ceremonial activity, of great economic and industrial activity, but also a time for the revival of games for the young and old, in the years before the Ghost Dance there was no general spring revival of social activity.

This decline of Pawnee culture was not altogether a direct result of the changing conditions, but in considerable part was connected with the Pawnee pattern for handing on traditional knowledge.

According to the Pawnee conception, the knowledge and learning of an individual had to be handed down by actual instruction of the young. This was somewhat different for the two basic types of bundles: the sacred bundles (with which can be associated the society bundles, probably derivative), and the doctor bundles. A sacred bundle was physically owned by a man who did not necessarily know its significance and ritual, although he

did carry out his obligations toward it according to the instruction of a priest; it was physically cared for by the owner's wife; and its ritual learning was controlled or owned by a priest. The bundle itself was inherited in the male line (ordinarily). The ritual learning was taught by the priest to his successor, usually a close relative (though not necessarily in the male line alone), but lacking close kin of the right temperament and character, the priest taught whom he wished. On the other hand, a medicine man owned his bundle *and* its correlative teachings, performances, rites. He turned these over to his successor, who was usually a close relative (son or nephew, etc.), but again, if the medicine man found his own kin unwilling to take over his bundle, he would teach someone else who came to him desiring to learn.

Ordinarily, a man taught his successor largely by demonstration. That is, the apprentice took part in the actual demonstrations of the ritual, watching what went on. In the course of the procedure, his master explained details. As the teacher found his pupil mastering phases of the activity, he turned over to the pupil such parts of the ritual, performance, etc., as he found were understood. In this way, as a rule, a man learned *all* of another's teachings only if the teacher lived to be an old man. In fact, the Pawnee conception was that as a man taught what he knew he gave up part of his life, and that when he had given over all his teachings, he would die. Hence the old and learned always held back something until they were ready to die. If a priest or medicine man died, what he had not taught to his successor was lost. Usually, when an old man knew he was on his deathbed, and valued his learning and his apprentice, he called the apprentice in, and in dying whispers told him the essentials of what he had not before that time communicated. Now since among the Pawnee a man has no right to handle in a ceremonial manner what he does not understand, what he has not learned to carry out, it happened in most cases that doctor bundles were broken up upon the death of the owner. Some part of the bundle had already been transferred to the medicine man's apprentice; some further part which the apprentice understood but had not already been given, was now handed over to him; and the rest was buried with the deceased medicine man. As the ownership of the sacred bundles was divorced from the knowledge of their rituals, the same did not happen to them. The physical bundle survived, but gradually less and less of its contents were understood by living men.

The important point to remember in this is that in old Pawnee ideology what of traditional learning was lost through death was lost beyond recovery. There was no sanction for carrying out any ritual, other than that

the one who attempted to carry it out had learned about it from the man who formerly had controlled it and demonstrated it.

As conditions became unfavorable for carrying out the activities and demonstrating the rituals of the ceremonies and societies, there was neither the stimulus for the old to teach and for the young to learn, nor the customary mechanism in operation for the transfer of learning. Hence the normal rate of cultural forgetting was accelerated, and in the course of only a few years, relatively, most of the old traditional ways were buried in the grave.

Into this situation of cultural decay and gradual darkness, the Ghost Dance doctrine shone like a bright light. Indian ways were not gone, never to be recovered. Indian ways were coming back. Those who had lived before in the "golden age" were still carrying on old ceremonies, old dances, old performances, and old games in the beyond. They were coming back; they were bringing the old ways and the buffalo. Dance, dance, dance. The white man would be destroyed by a great wind. The Indian would be left with the buffalo, with his ancestors, with his old friends and his old enemies. Cast aside the white man's ways like an old garment; put on the clothes of the Indian again. Get ready for the new day and the old times.

The dancers shook and fell in hypnotic trances. They saw the people in the beyond dancing too. They saw them playing games, ring and pole games, handgames; they saw them gathering for war dances and the hunt; they saw them gathered in their old society brotherhoods.

The visionaries awoke and told what they saw. *They* are doing all these things; we must too. So the people began games and dances. They revived war dances and societies; they revived the Horn Dance, the Young Dog Dance, the Iruska, the Big Horse Society, the Roached Heads, the Crazy Dogs. Again they carried out the Pipe Dance; they renewed interest in the Doctor Dances. They played handgames.

In short, the activity of the Ghost Dance times was not a mere revival of old ways, it became a renaissance of Pawnee culture.

This effect occurred in the following way: In a vision the subject would "see" some old way of life which had come to be disregarded. He would "remember" it. His vision then became a command upon those alive who knew how it must be carried out, to do so. Sometimes there were men alive who knew the thing thoroughly and were persuaded by the demand of such a supernatural message to begin it again. But often a ritual or dance was only partially remembered. Then many men would get together and pool their memories to revive the affair. If the "seen" phase of old life was social

and non-esoteric, the visionary himself would revive the old way. Hence games, and handgames.

Most important of all were revivals of those old ways which had been utterly lost. In older Pawnee theory, as we saw, only direct learning from the owner sanctioned use and demonstration. But in a vision in the Ghost Dance one saw the deceased (the "ghost", in other words); one saw those who had known how to do these things and had died without handing them on. The deceased in the vision told the visionary what to do just as he would have done in life. He appealed to the visionary to revive his ways because the old life was soon to reappear in its entirety. Thus an entirely new form of sanction came into Pawnee thought. Where it would have been sacrilege formerly to have carried out a dance or ceremony to which one had no right, where before such behavior would have invited supernatural punishment, the trance vision now constituted a supernatural command that the performance *be* revived.⁶

⁶ The Bear Dance of recent years among the Pawnee, such as that which James Murie studied and recorded, was a Ghost Dance revival. The following quotations from Murie's account in *Ceremonies of the Pawnee*, in press, Bureau of Ethnology, serve to illustrate the account given above of these revivals. The account is presented by Murie as of the Skiri Bear Dance, but I have found on internal evidence, such as the affiliation of the owners of the revived ceremony, the choice of individuals for the leaderships, the story or teaching associated with the ceremony, the fact that the bears are "yellow bears," etc., that the form must be considered that of the Pitahawirat band.

"At the death of Bear Chief of the Pitahawirat, the main bearskin and other things belonging to the Bear Society were buried with him. He had not taught the secret ceremony to any one; so it was supposed that the Bear Society was lost. At a meeting of the medicine society when the ceremony had ended, a woman arose, her name Woman Yellow Corn, and said, 'I had a vision. I saw Bearchief wearing the bear robe over his shoulders and the bear claw neck-piece around his neck. He was painted with yellow earthen clay, and had black streaks from each eye down the face. He said, 'My sister, Father (bear) and Mother (cedar-tree) have not had any smoke for many years. We (dead people) are watching for our people to have the ceremony. The people think the ceremony is lost. It is not, for one of the Bear men who knows the ceremony is still with you. I ask that you tell the people so that they can have the ceremony, for it is time.' I woke up and the last few days have been crying to think that I should be the one to tell you. I have a cow which you can have so you can have the ceremony.' Then she began to cry.

"The leaders of the Bear ceremony each in their turn arose, went to the woman and blessed her. . . . They said, 'My sister, this is very hard. None of us know the ceremony but Father (bear) and Mother (cedar-tree) will plan a way themselves so we can have the ceremony. . . .'

"Some days later the members of the Bear society met and compared their knowledge of the ceremony. When all had spoken a man named Big Star . . . questioned the others as to their knowledge of the ceremony. He found that none in the meeting knew the ceremony. So he said, 'Brothers, this is hard. You see I am paralyzed, and I could not sit and carry the ceremony out. If you will all agree I will try it. Before we do anything we must select men to be

This renaissance meant not only the revival of activities. It meant also that a good deal of ceremonial paraphernalia which had been lost or buried in times past, was duplicated from memory and vision. Many of the society regalia and ritual objects which were purchased by the museums around 1900 from the Pawnee were not the old sacred objects. Those had long before disappeared, many of them prior to the movement of the Pawnee to Oklahoma in 1874-76. They were the Ghost Dance revival objects, the Ghost Dance reincarnations of the old lances, drums, regalia and pipes.

Following this revival of old ways, there was a new reintegration of Ghost Dance suggestions, old ways, and current thought. In terms of this the ghost dance handgames arose, and passed through many transformations. In some of these, special revivals of old societies were incorporated.

the leaders. You and I know that there are some men here who are descendants of deceased men who were leaders in the Bear Society. . . ' So he selected . . Little Warchief, . . Little Sun, . . . Good Buffalo, . . and Roaming Chief. . ."

These men were ceremonially inducted into office. Big Star then seated himself with these leaders at the altar and made arrangements to collect among the people the ceremonial utensils, etc., for a set of things needed to carry out the ceremony.

"When all the others had gone out, Big Star told the four men to watch as he carried on the ceremony, that he would carry on the ceremony for them. He also told that Tirawahat had planned through the woman for them to have the ceremony, so he was willing to carry the ceremony on for them without pay, that in olden times men paid to learn the secrets of the Bear ceremony, especially in going after the Mother Cedar-Tree, that he himself did not purchase the right to carry the ceremony on, but that Bear Chief who was the last man to know the ceremony had given him the right to sit near him and watch, that Bear Chief took pity on him and taught him the ceremony and songs without pay. He then told them to go to their homes, that on the morrow when they entered the lodge each one was to take his seat. They were then dismissed with the exception of Little Warchief.

"When they were alone Big Star questioned Little Warchief about the songs and asked if he knew them. Little Warchief said, 'Yes, I know the songs.' Big Star was glad of this for although he could carry on the ceremony, he was afraid that he would not be able to sing the cedar-tree songs."

Later at the preliminary feast to set the date of the ceremony, "when all were in, Big Star said, 'You, who are sitting at the altar and those of you at the stations, old men and chiefs. Today we sit in this lodge as men of the Bear Society. We are gathered together here, through Woman Yellow Corn, who had a vision of one of our departed relatives who asked that we have this ceremony, that Father and Mother might receive our smoke'. . . ."

Inasmuch as Murie, in reporting this and the rest of his account, was unaware of the nature of this whole procedure as a revival, it is interesting substantiation and illustration of the interpretation I have outlined above. Murie's confusion about the band affiliation of the ceremony is no doubt due to the pooling of knowledge, which does include men of various bands. Of interest is that in the account of Murie of the felling of the cedar-tree, the tree is made to fall westward, a Ghost Dance orientation; in earlier times the tree would have to fall eastward. The whole nature of this revival of a ceremony whose owner is dead, and whose bundle is buried in the ground, would have been impossible without the Ghost Dance and its doctrines.

New forms of intertribal visiting were founded on revivals of old customs and Ghost Dance ideas. Society and dance revivals were integrated with Ghost Dance thought. Thus vital phases of Pawnee life which survived until recent years were not exactly what Pawnee life had been in the 19th century; they were based on old forms and traditions, but they were changed permanently into new forms by the cultural stimulant of the Ghost Dance years.

The Ghost Dance was not merely a religious revival movement. Its roots lie deep in the gradual cultural destruction which preceded it. Its doctrine and the activities it demanded infused new life into the culture, and constituted instrumentalities for an actual renaissance of the forms of old culture. Along with this renaissance there came into being also new cultural forms, unknown before.⁷

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⁷ Since the preceding discussion was written, the cultural problems of the Ghost Dance have been more fully analyzed in, "The Pawnee Ghost Dance Hand Game, a Study of Cultural Change." In Press, Columbia University Press.

ABORIGINAL BURIALS IN SOUTHWESTERN OREGON

By L. S. CRESSMAN

NOTE. Read before Section H of the American Association for the Advancement of Science at Pasadena, June 16, 1931. The work was financed by a grant-in-aid from the Research Council of the University of Oregon.

IT SEEMS wiser not to speak of this group of burials as in a burial mound for that expression has a significance quite lacking in this case. A "mound," as used in this connection, should mean something made by man, an element of culture, whether heaped up by the direct efforts of men or a by-product of a manner of life, as the kitchen-middens of our coast lines. In this case we have a deposit of soil laid down along ago by the Rogue river.¹ To the east of Gold hill within the triangle made by the twelve hun-

¹ Dr. Warren D. Smith of the Department of Geology of the University of Oregon took samples of soil from a test hole at different levels. The results of his examination of these specimens are stated as follows:

"May 28, 1931

"Memorandum to Dr. L. S. Cressman:

"The deposit at Gold Hill, Oregon, in which the Indian burials were found, consists of river deposited material of probable Pleistocene age. The mound is roughly oblong. It is on the highest of three terraces on the south bank of the Rogue river opposite a bend in the river and directly across from the business part of the town. The top of the mound is between forty-five and fifty feet above the present river level.

"The first terrace is about ten feet in height and is made up almost entirely of cemented river gravel. The second terrace, some fifteen or twenty feet back from the first, is also some ten or fifteen feet in height and is made up largely of cemented river gravel. The third and highest terrace is approximately fifteen to twenty feet in height and is made up almost entirely of river silt. At the top there are about two feet, though the thickness varies, of rather fine rounded sand. The middle portion is made up of somewhat coarser material and more firmly compacted with a high percentage of pellets of pumice which vary from little more than the size of a pinhead to nodules of an inch or more in diameter, though in the main of rather fine material. There is also a sprinkling of charcoal fragments.

"The lowest level of the deposit excavated by us about eight feet from the top of the mound was sampled and is made up of considerably coarser material with not so much pumice in it but with sand grains of approximately the same mineral character as the layers above.

"No very distinct stratification was apparent in the deposit although the deposit was entirely water laid. When examined with a microscope the four samples taken from the deposit indicated about the same mineral content—fragments of quartz, feldspar and the darker ferro-magnesian minerals. Frequent small grains of olivine were seen in the sand. These are the normal minerals one would expect to find in deposits laid down by the Rogue river, the pumice indicating very clearly the origin of the deposit, as the upper regions of the Rogue drain a territory having an abundance of pumice from which these small grains could be derived. The material in the upper part of the deposit which was darkened by humus showed under the microscope a considerable coating of carbonaceous matter surrounding each of the

dred foot contour, and south of the unnamed creek on the accompanying map, there is this river deposit. Kane creek has cut its way through the terrace to a depth of about twenty feet, flowing in a westerly and then northerly direction. The eastern part of the field and the edge along the south, that is, along Kane creek, has been under cultivation and is cut down to a considerable depth below the top of the first terrace. This results in the present site, where the skeletal remains and artifacts have been found,

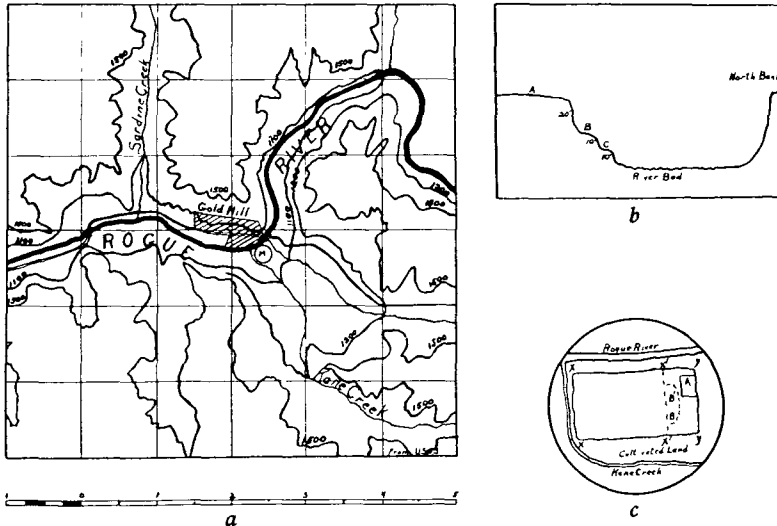


FIG. 1. *a*, Map showing the location of the Gold hill burials.

b, Cross section of the Rogue river showing three terraces opposite Gold hill. A, first terrace; B, second terrace; C, third terrace.

c, Details of the excavations. X'-Y, excavated area. A, 6-7 foot burials; B'-B, 2½-4 foot burials; B', 2½ foot burials. X-Y, 50 yds., Y-Y 33 yards, X'-Y, 20 yards.

mineral grains so it was difficult, until these were cleaned off, to determine just what minerals were present.

"The deposit from top to bottom has every appearance of being quite old and I should refer most of it to the Pleistocene. It is quite possible, of course, that recent unprecedented floods may have added some accumulations on top of the highest terrace and may have re-worked to a certain extent some of the top layers. But there was very little evidence of any disturbance three or four feet down in the deposit where several of the bodies were found.

"The bed-rock in the bed of the Rogue river at this point consists in the main of metamorphic rocks, chiefly altered lava flows of presumable Paleozoic age. The rocks have been called for convenience greenstones.

"As no fossils were found in the river deposit it is not possible at present at least to date the mound formation more definitely.

W. D. Smith
Department of Geology"

standing out above the surrounding fields as though it were in reality a mound heaped up by man instead of one left as the other soil has been removed. It is in this small area indicated on the map by the circle, lying between Kane creek and the Rogue, that all the burials have been found. Artifacts of different kinds were picked up by various people in other places in the same area, but no other burials have been definitely established in the immediate vicinity.

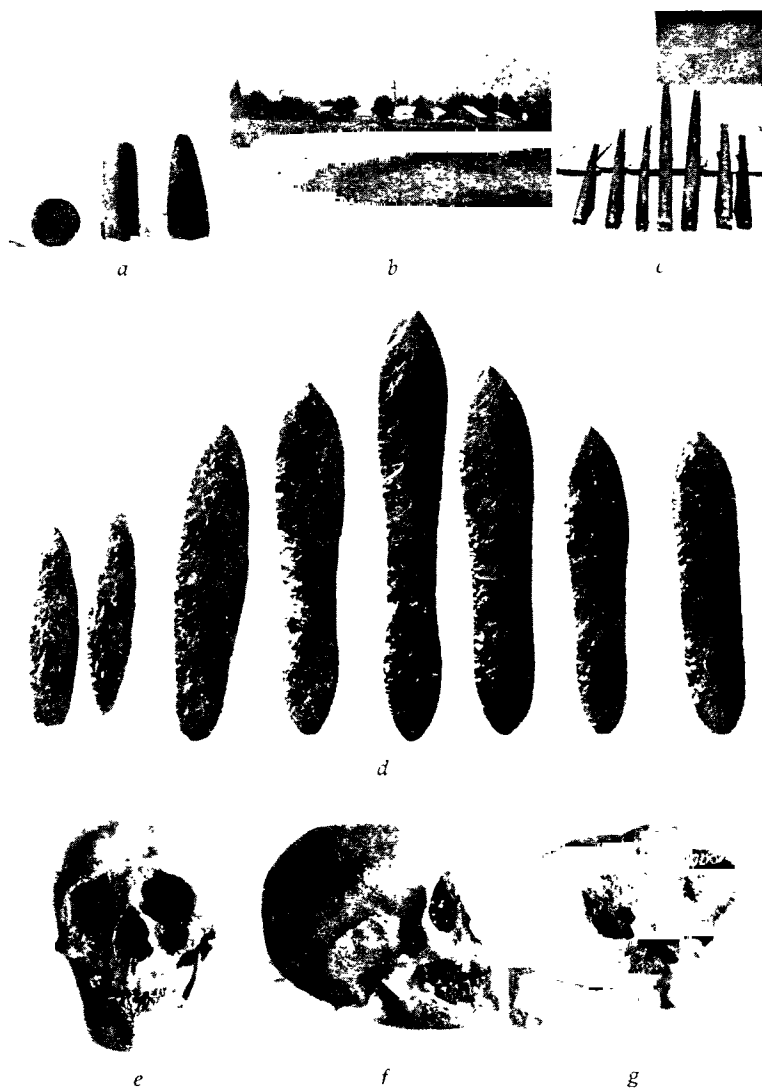
Excavations were made in May, June, September, and November, 1930, and again in May, 1931. The work in June, 1930, was done under the writer's direction, but he was not present.

Systematic examination of the mound is carried on by the removal of the soil in terraces. First the ground is plowed and then the soil is removed with a fresno and pair of horses. (The preliminary work with the plow and scraper was made necessary because of the small sum available for the work. As soon as any sign of a burial was discovered small hand tools and brushes were used for further excavation.) As a general rule, a burial is marked by fire-broken stones, in some cases very obviously mortars and pestles, and between the stones and the skeleton an area of black soil varying in depth from one to two and a half feet, and about the length and breadth of a flexed body. This black soil shows the same composition as that around it, so it was not brought in from the outside. The evidence seems to indicate that the hole was dug, the body placed in it, and the sand which had been removed then replaced, and the broken stones thrown on top of the grave. None of these sections of black soil reaches the present surface, some of the deepest being as much as five to six feet below it. Some of the oldest inhabitants remember the river to have flooded this highest terrace at one time—in the '80's, I believe.

We shall consider the results of the excavations in the following order: the skeletal remains, burials, stone implements, obsidian blades, shells and seeds, and identification of the culture represented.

SKELETAL REMAINS

Approximately twenty-two skeletons were unearthed either whole or in part. As a matter of fact, practically all of them were in such an advanced stage of disintegration that it was impossible to do more than expose the best *in situ* and discover the nature of the burial. In only one case did we succeed in securing a practically complete skull (pl. 3). Even this one is not absolutely complete. The left zygomatic arch is broken and there are two holes in the skull vault, while the posterior part of the foramen magnum is lacking. It does lend itself to some measurement, but is prac-



a, c, Stone implements; *b*, east end of mound; *d*, obsidian blades;
e, skull showing supernumerary teeth.

tically useless for identifying the people to which it might belong, since we have no way of discovering where it belongs on a curve of distribution of such measurements. The cephalic index of this skull is 85.0. The upper facial index is 53.7.² This burial was four feet below the present surface.

The teeth of this specimen of which the skull was secured showed some interesting pathological conditions. The upper jaw has eighteen instead of sixteen teeth. On the right side the supernumerary tooth grows buccally and from between the second premolar and the first molar. This has resulted in the use of the roots of the first molar for chewing, since the first molar is pushed so far to the rear. The supernumerary tooth on the left has grown lingually between the first and second pre-molars. The teeth are well worn, and in one case the pulp was exposed. The lower mandible shows evidence of two abscesses, one with each of the third molars.

The teeth, in all cases except in the complete skull, show the direction of wear to be outward and downward, while those of the skull are lingually and downward.

The dental specimens show teeth excessively worn. A detailed study would probably reveal evidence of dental pathology quite similar to that of Leigh's study on aborigines of California.³

BURIAL

Burial shows a characteristic form. All undisturbed skeletons were lying on the left side with the head toward the south, facing west, legs flexed with knees against the chest, feet pulled in against the pelvis and arms folded across the chest. The shallowest burials were about three feet below the surface, while the deepest were between seven and eight. It is probable, however, that the deeper burials were made at an earlier time and resulting floods have deposited the silt to the present depth. Four skeletons, three of which were at the seven foot level, were buried with two obsidian blades each, a red and a black, while one at the four foot level was buried with the two smaller black blades. One grave contained three varieties of shells, and a collection of shells of "Digger Pine" seeds. There were no other artifacts found with the skeletons. Bits of worked flint, arrow heads, and some stone implements have been found scattered through the deposit, but no single unbroken stone implement except the blades have been recovered from the graves.

² Ales Hrdlicka, *Anthropometry* 1920, p. 152.

³ R. W. Leigh, *Dental Pathology of Aboriginal California*, U.C. PAAF 23, no. 10 309-440, pls. 6-67.

STONE IMPLEMENTS

The stone implements consist of a great many fragments of fire-broken pestles and mortars, a round thin stone, basalt, 87 mm. in greatest diameter, and 15-17 mm. in thickness, perhaps a whet-stone, one cylindrical stone, granite, 170 mm. in length and 60 mm. in diameter, probably a maul; and another instrument, basalt, conical in shape, 182 mm. in length, 79 mm. across at the base, probably a pestle (pl. 3*a*). There is a large stone, almost kidney-shaped, 330 mm. long and 115 mm. across, which has probably been used for smoothing or polishing purposes. However, the bed of the Rogue at this point is full of boulders and rubble of every conceivable shape. Consequently, this stone may have been one brought from the river bed for some use by the occupants of this site. Another stone, perhaps a "charm stone," 59 mm. in length and 20.5 mm. in median diameter, and 8 mm. at the ends, was found in the site, but not with any grave. The stone has neither a hole nor a depression for fastening to a string for suspension, a fact which would not necessarily preclude its use as a "charm stone."⁴ No evidence of the existence of the metate was found.

OBSIDIAN BLADES

Eight obsidian blades (pl. 3*d*) have been recovered. These were buried in pairs with four bodies. There are three red and five black ones. There were three burials with a red and a black blade each, and one with two black ones. One black blade, found with a red one, showed traces of red pigment as though the owner had tried to color it to give it the appearance of the more valuable type. This blade is the poorest type of workmanship of all eight. They range in length from 147 mm., the small black one with a blunt base, to 340 mm., a magnificent black one. There is an exquisite red one, 280 mm. in length, with a maximum breadth of 57, and a minimum of 45 at the point for grasping, widening again to 47 mm. at the base just before it is turned again to the point. The thickness of these blades is remarkably uniform, varying from 11 mm. to 14 mm., but no single one shows this variation. The greatest variation in any single one is in the long black one which is 14 mm. through at the grasping part, but 12 mm. at each end. This symmetry and control of technique is striking evidence of the skill of these aboriginal craftsmen. The two smaller knives are an approximate "laurel leaf" type and do not lend themselves to the same measurements or comparisons as the others which show the maximum breadth at the forepart of the blade receding to the minimum breadth at the point where they

⁴ Article on "Plummets" in *Handbook of the American Indians*, BAE-B 30, pt. 2: 266-8.

are meant to be grasped, and then spreading to a slightly greater width just below toward the base. The knife which has been painted red flares to its maximum breadth at the center, and corresponds in shape to Blade #3 of Mexican origin in Plate XLI of Rust's paper.⁵ One of the two shorter knives, as may be seen from the photograph (the second knife from the left), is streaked with almost transparent gray shafts which run diagonally across the material. The measurements of these blades is given at the close of this article.

ARROW POINTS AND FLINT CHIPS

Fragments of arrow points and some very small unbroken but curved points were recovered from the deposit. These fragments, as well as those of flint showing evidence of chipping, have been very numerous and no effort is made here to classify them.

SHELLS

One grave, that of a child about eight years old, provided a large collection of three different kinds of shells. This burial lay at a depth of about thirty inches from the present surface to the top of the skeleton. A large collection of shells, several hundred of the species *Olivella Biplicata*, a few specimens of *Glycymeris Obsoleta* Carpenter and four pieces of abalone shell, two cut into oblong shaped pieces, and one triangular piece, 39 mm. across the base and 46 mm. long, unperforated, and one nearly square segment. The largest piece of abalone measures 30 mm. across the base, 22 mm. at the top, and 49 mm. from top to bottom. There is one piece of abalone cut in an oblong shape 12 by 30 mm. This piece has evidently been perforated at each end, while the other two pieces were perforated only at the top or narrower end. The piece which is nearly square has the suspension hole in one corner or just off the exact point. The shape may have been determined by a prominence which prevents the oblong design, since such would be at variance with the form of the material. The range of the *olivella* and the *glycymeris* is from Puget sound to San Diego, while the abalone is found as far north as the Oregon coast. The specimens are small, so that these large flat specimens could not have been cut from them.

The *olivella* shells have had the apex rubbed off after the manner reported by Stearns⁶ for the California Indians. The method of stringing the shells was evidently the same (cf. Stearns, p. 324, fig. 16) from the position

⁵ Horatio N. Rust. The Obsidian Blades of California, with notes by A. L. Kroeber, AA, n.s., 7: 690.

⁶ Robert Stearns, Ethno-Conchology—A Study of Primitive Money. SI-AR pt. 2: 32, fig. 17, 1887.

in which they lay, although there was not the slightest evidence of the material upon which they had been strung. The glycymeris shells were strung through a small hole in the base of the shell.

SEEDS

With this same burial there was a large collection of shells of the seeds of the "Digger Pine," *Pinus Sabiniana* Douglas. The seeds have been strung along with the various shells for ornamental uses. They do not seem to have been on any garment such as that illustrated by Goddard for the Hupa, though such use is possible.⁷ They were mixed with the larger shells about the thorax of the skeleton and with the small *Olivella* shells and a small piece of abalone about the wrists, where the arrangement of the *olivella* shells was clearly evident. Most of the pine seed shells have one end rubbed and a hole punctured through one side just below. Some of them are not rubbed off at the end, but are perforated laterally with two holes. A good number show signs of carbonization, while others do not. A piece of partially charred fir about twenty inches long and three inches through was found lying over the wrists of the skeleton, but the shells against which it lay showed no sign of carbonization. Consequently, the wood must have been burned before being thrown into the grave, or placed there, for the shells under it were not crushed. The carbonized shells are in a good state of preservation, but those untouched by fire are very much deteriorated. The range of these shells, as given by Jepson, Sargent and Sudworth,⁸ is

⁷ Phny Earl Goddard, *Life and Culture of the Hupa*, UC-PAAE 1, pl. 8, figs. 1, 2, 1903-4.

⁸ "California—Foothills, lower mountain slopes, and high valleys (at north) of coast ranges and Sierras.

"*Coast Ranges*. From upper Sacramento and Trinity rivers and Hoopa Valley (on Klamath River, Humboldt County) to southern cross ranges generally at elevations of 500 to 4,000 feet—occasionally to 5,000 feet. *Shasta County*. North limits, delta in Sacramento River Canyon, above mouth of Pitt River, at 1,150 feet, and at point 15 miles up McCloud River, eastern limits, isolated bodies in northeastern corner of county on hills west and south of Fall River, and on Hat Creek (Near Cassel), main body ending two miles east of Montgomery Creek (tributary Pitt River), west limit, on west side of Sacramento Valley on ridge west of French Gulch at 2,400 feet, south limit, immediately on Sacramento River at Anderson (11 miles south of Redding). *Trinity County*: North limits; Trinity River and Weaver Creek considerably above Weaverville at 2,100 feet, Canyon Creek (10 miles above Junction) at 2,400 feet, western limit east side Mad River Valley on bottom slopes of South Fork Mountain. *Humboldt County* only in Trinity River Bottoms, mainly in Hoopa Valley (north limit), Supply Creek Canyon and Redwood Creek (west of Hoopa Valley near Bair ranch, west limit

"Reported northward in Coast Mountains to slopes of Siskiyou, eastward to Owens Valley, and southward to San Bernardino Mountains."

George B. Sudworth, *Forest Trees of the Pacific Slope*, pp. 55, 56 U. S. Department of Agriculture, Forest Service, Government Printing Office, Washington, D. C., 1908.

limited to the north by the southern Siskiyou or by a line conforming approximately to the 41st degree north latitude. This species has never been reported farther north than the southern slope of the Siskiyou, a full hundred miles as the crow flies from the nearest point on the line to the Rogue valley where these burials occur.

Artifacts recovered by persons other than the writer:

OBSIDIAN BLADES

Three or four blades, both black and red, were previously recovered by the owner of the ranch during his plowing. These are of the same type as those we have described and average about the median size of our series.

STONE FRAGMENTS

Stone fragments, broken by fire in some cases, have also been previously recovered. Flint and obsidian arrow points have provided numerous articles.

PIPES

The most important find was the series of pipes made of serpentine and greenstone schist. Exact information as to the depth of burial is not available. It has been reported as seven feet, but the writer was told personally by the owner that it was after the third plowing, which would make it something over three feet in depth. The seven pipes (pl. 3c) were found in one grave and without other artifacts. No other pipes have been found. The longest pipe is 465 mm. long and 35 mm. at its greatest diameter. The smallest is 206 mm. long and 26 mm. in diameter. The smaller pipes are of serpentine, while the larger are made of a variety of greenstone. One has but a small shaft bored through, while the others are hollowed out until there is but a shell remaining.

BONE ORNAMENT

In a pocket of a gopher hole just across Kane creek on the west side of the deposit, a bone ornament about one half inch wide and six inches long, flat on one side and rounded on the other, was found. There was a perforation at one end and an indentation opposite the hole on the end showing that this was meant to be suspended. There was evidently a simple form of ornamentation used, made by incising lines so as to form triangles with the points toward the median line of the object. The points did not quite reach the center line. The triangles were grouped in units of threes and twos to make a series of fives. Some of the triangles were formed by five lines, while

others were made by three. The triangles were incised along each edge, but on only the rounded side. There was a larger number of designs on one edge than the other. The ornament, in so far as the writer has been able to observe it, seems to correspond to the type worn by girls during adolescence, as reported by Goddard for the Hupa.⁹ This seems to have been a surface find.

CULTURAL RELATIONS OF THESE BURIALS

Southwestern Oregon, because of the accidents of history, is politically aligned with a state to which it does not naturally belong. Beginning with the Umpqua divide, the physiography and the flora change so that from there on south there is a greater similarity to northern California than to west central Oregon. The moist climate of the Puget sound area gives way to the dry climate of the higher altitudes. That this was a natural line of division for aboriginal culture in historic times has long been definitely established.¹⁰ The southwestern Oregon area has, however, been exposed to lines of influence from three main directions. On the north and west were the southern boundaries of the Puget sound or Northwest Coast culture area, to the east was the southwestern tip of the Plateau and the Great Basin area, while to the south was the northwestern California area. The very scanty ethnographic data of southwestern Oregon, and particularly the Rogue valley as reported by some excellent but meager studies and the reports of early travellers and explorers, indicated that the southwestern area was not only particularly open to California, but was in reality a part of that area even though the culture showed some variations. Our archaeological investigations show that the culture was essentially that of northwestern California and certainly differed from that of the aborigines at the time of their contacts with the whites. While there are these variations, for instance in the type of burial, the difference is such that the later burials with the body placed in a box¹¹ might very easily have developed from the simple burial in the flexed position without the box, especially if the technique of wood-working had been a later development. One thing is conclusive, the area was even then more akin to the prehistoric culture of California than it was to that north of the Umpqua divide.

⁹ Goddard, *op. cit.*, Plate 10, Fig. 4.

The writer has not had these artifacts found by others in his possession to make any detailed study of them. He has been limited to as detailed a study as was permitted by the courtesy of the present owners in making them available to him for a short period of time while engaged on the main work of excavation.

¹⁰ Lewis, *op. cit.*, p. 177.

¹¹ Schumacher, *op. cit.*, pp. 27 ff.

Culturally we can say that all the burials so far unearthed are pre-Columbian. There has not been one single piece of evidence of any European culture. The complete absence of any beads or anything of the sort in the grave of the child in which the shells and pine nuts were found would indicate that this burial was antecedent to contact with the whites. This grave was at the shallowest depth below the surface. With white contacts established, beads and buttons very quickly began to displace the more attractive but technically more difficult material. Yet the carefully sifted soil from this grave failed to show any sign of traders' stores. This body, while interred at about thirty inches and with evidences of ornaments but nothing else, was buried in exactly the same position as those at all the lower levels, even those at seven feet with which were found the obsidian blades. We have called attention to the piece of partly burned fir with this child's body, but it must have been thrown in upon the body after it was burnt, for there was no evidence that the olivella shells or the pine seed shells, which adhered to the wood when it was removed, had been subjected to fire. The depth of this burial would correspond to that customary among the Hupa¹², and some of the ornaments are of the same type, but there are too many other variants in the details to identify the two, certainly at this juncture. The variation in depth of burial seems to indicate a considerable lapse of time between the burial of the child and of those graves at the greatest depth over which river silt has obviously been deposited. While the deposit in the main has been identified as pleistocene by Professor Smith, it would not necessarily mean that the burials were those of pleistocene man, unless there were evidence of no post-pleistocene deposit, and the burials showed water-laid soil above them. As he points out, there is evidence of disturbance of the soil above the four-foot level, but none below that. This body at the thirty-inch level would be in that area, yet it offers no sign of European culture. The depth is such that it hardly seems plausible that there has been any soil deposited above it, although such might have been the case in view of the disturbance of the surface soil by agriculture. This manipulation of the soil tended to work the surface material down into the soil previously lacking it. In view of the geological nature of the deposit, the water-disturbed nature of the upper area, and the great depths of the lowest burials with every evidence of water-laid soil above them and between the top area, we are in all likelihood dealing with burials of a substantial period in the past.

The persistence of the culture traits would not interfere with this sup-

¹² Goddard, *op. cit.*, p. 70

position, as Kroeber has called attention to the remarkably static nature of the culture of the California area.¹³

TYPE OF BURIAL

Lewis says,¹⁴ in speaking of the Indians of southwestern Oregon, in particular at the headwaters of the Umpqua,

the dead . . . were doubled up and buried in the ground, the grave covered with stones, and the person's property piled around. The excavations of Schumacher show a similar method of burial. Smith says that the only burial he saw was that of a chief who was placed in a sitting posture in the ground.

Schumacher reports for the mouth of the Rogue,

The corpses were found doubled up in the usual manner, lying on their backs, or sideways, and facing the *rancheria* in a southeastward direction, although some were found just in an opposite way.¹⁵

His account is more explicit than that of Lewis on the Umpquas and on Schumacher's excavations. The significant thing about Schumacher's account is the lack of any uniformity in the method of burial at the same village, but he was dealing with post-Columbian burials and the diversity in a trait so likely to be fixed as burial may be due to a gradual change from a type previously consistent and fixed, especially in view of contacts with whites.

Kroeber¹⁶ reports the "sitting position" for southwestern Oregon.

The burials in the present excavation were all consistent except where the bodies had been disturbed by action of the water or where disintegration had destroyed the skeleton. Especially was this the case where burials had been made in pumice formations, almost as compact as hardpan. The bodies were buried with the arms folded across the chest, the knees flexed and pulled up as near to the chest as possible, and the feet pressed back against the pelvis. The bodies all lay on the left side, head to the south and facing

¹³ Kroeber, *Handbook of the Indians of California*, B-BAE 78, 898-939. "When it is remembered that the best authority—estimating, indeed, but using as exact data as possible and proceeding with scientific care—puts the beginning of this period (shell mound) at more than 3,000 years ago, it is clear that we are confronted by a historical fact of extraordinary importance," (p. 930).

¹⁴ Albert Buell Lewis, *Tribes of the Columbia Valley and the Coast of Washington and Oregon*, AAA-M 1, pt. 2: 177.

¹⁵ Paul Schumacher, *Researches in the Kjekkenmoddings and Graves of a Former Population of the Coast of Oregon*. Bul. of the United States Geological and Geographical Survey of the Territories, 3, no. 1: 34. Washington, Government Printing Office, April 5, 1877.

¹⁶ A. L. Kroeber, *California Culture Provinces* UC-PAAE 17, no. 2: 160, 1920.

the west. Four of the bodies had buried with them obsidian blades in pairs, three of them having a red and a black one in the pair. These were at approximately the seven foot level. The other at the four foot level had the two smaller black knives with it. One blade, a red one, was broken into two pieces, but this was undoubtedly accidental, as none of the others was damaged.

Kroeber states that the obsidian blades were not buried with their owners, but passed from generation to generation,¹⁷ or were used commercially, for example, in wife purchase. Here blades of an exquisite workmanship are buried, and buried according to definite pattern, in pairs, of red and black. We have here, then, in all probability, a firmly established pattern of burial with characteristics that mark it off definitely from that of the surrounding area.

The pipes are undoubtedly a California type, probably prehistoric, and likely have religious significance, that is, comprise part of the paraphernalia of a shaman. The lack of the metate also indicates a prehistoric culture.

The shells might have come up the Klamath, the Rogue, or less likely, the Umpqua. The pine seed shells, however, could have come from only one direction, south of the Siskiyou. Some of these shells are carbonized, while others are not. This lack of consistency would indicate that the burning was not a definite act which was performed upon all of them. The carbonized shells are far better preserved than the others, which are so fragile that they fall to pieces if more than touched. Sudworth¹⁸ states that it was customary for the Indians to burn the cones to secure the seeds more easily. This might well account for the presence of carbonization while there is no evidence of fire in the grave.

In conclusion, there seem to be two, and probably three, strata represented by these burials. The first consists of those at approximately the seven foot level, with which were buried obsidian blades in pairs; the second would be at the four foot level at which artifacts were absent except in one case where there was a pair of rather inferior blades, more of the weapon type than ceremonial; the last would be at the two and a half foot level. In this last would probably fall the burial containing the pipes and the one with the shells and nuts. These last, in view of the customary greater depth of burial, might be considered intrusive in the area, but the child burial followed the usual flexed position. We cannot speak for the other. The lack of dentalium among the other varieties of shells would tend to

¹⁷ A. L. Kroeber, Notes to "Obsidian Blades of California" by Horatio N. Rust, AA, n s., 7: 691.

¹⁸ Sudworth, *op. cit.*, p. 54.

date this burial antecedent to the introduction of this variety among the Indians of the northwestern California area.

Speculating briefly, one might visualize the earliest burials with these ceremonial obsidian blades of exquisite workmanship as antecedent to the period when property came to be so important that it served as a basis of social status, and these valuable knives were no longer interred with the corpse. The two small blades at the four foot level are more of the weapon type (blunt base) than the ceremonial and might serve as evidence showing the development of the attitude which regarded these blades as valuable property to be preserved. The upper level would seem to indicate clearly established social differences as suggested by the abundance of ornamental objects from that burial. If we apply Kroeber's chronology¹⁹ to these periods we should date the first stratum between 2100-500 B.C. or earlier, the second in the late second or early third, about 500 A.D., while the last would come in the third period, 500-1200 A.D. Kroeber puts the beginning of the shell industry along the southern coast in the second period. The shells from this level are from the south. Allowing generously for diffusion, we could put this burial in the third period and it would still be prior to 1200 A.D. Granting that this speculation may miss the mark as to approximate chronology, it seems certain that we are dealing with different strata of culture which show significant, although not striking, differences from one another and from the culture of historic times. The culture in its main lines probably has its base in northwestern California on the lower Klamath, but has developed along slightly different lines for a variety of reasons, giving and taking from the groups at the focus of the culture.

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¹⁹ A. L. Kroeber, *The History of Native Culture in California*, UC-PAAE 20, Phoebe Apperson Hearst Memorial Volume 128 ff., 1923.

MEASUREMENT OF ARTIFACTS

(All measurements in mm.)

Type	Material	Length	Breadth			Blade Thickness (heel)		Depth of burial (ft.)
			Max.	Min.	Med.	Min.	Max.	
Obsidian blade	Black	147						4
"	"	160						4
"	"	340	56	39	49	12	14	7
"	"	270	55	41	45	11	13	4
"	"	280	57	45	47	12	12	6
"	"	234	49	43	43.5	11	12	6
"	"	239	57.5 (center)		—	11	14	7
"	"	233	51	39	40	12	13	7
Maul	Granite	170	63	60.5	57			
Pestle	Basalt	182	71	21	64			
Charm stone(?)	Basalt	59	20.5	8	(at ends)			
Whetstone	Basalt	Max dia		87				
		Thickness						
		Edge		17				
		Center		15				

Pipes ²⁰	Length	Max. Diameter
1	206	26
2	238	27
3	270	30
4	304	25
5	405	35
6	465	35

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²⁰ One broken, no measurements

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PROTO-ASIATIC ELEMENTS IN
OSTYAK-SAMOYED CULTURE¹

By G. PROKOFJEV

DURING a three years' sojourn in the Tasow Tundra, when I was director of a school for primitive populations in Janow Stan, I succeeded in collecting a rather considerable body of ethnographic, folkloristic, and linguistic material from the Ostyak-Samoyed.

Janow Stan is situated on the upper Turnchan river, about 500 km. west of the town of Turuchansk. The Ostyak-Samoyed living in this region call themselves Šol-kup, i.e., forest people. Linguistically they are of Samoyedic stock, but within this family their position is isolated since their speech is sharply differentiated from the northern dialects. As even Castrén in his day determined, they belong to the southern branch of Samoyedic peoples along with the recently Turkicized Kamassinzes of the Kan district.

Culturally, however, the Ostyak-Samoyed differ markedly from other Samoyedic groups. My analysis of Šol-kup culture demonstrated affinity with the Keto (the so-called Yenisei Ostyak) of the Nishne-Imbazzk group.

The Ostyak-Samoyed of Turuchansk thus constitute a tribe that falls culturally into the Proto-Asiatic category, while linguistically Samoyedic. The cultural tie between these two groups—the Ostyak-Samoyed and the Keto—proves intimate contact in the past, which according to all indications must have occurred in their common ancestral home, southern Siberia. On the other hand, this close union may be observed in some localities until the present day. Thus, on the lower Turuchan, Ostyak-Samoyed of the Baicha tribe and Keto of the Nishne-Imbazzk tribe live in the closest proximity. On the upper Taz, in the region of the Jeloguj river, the same peaceable juxtaposition may be noted with reference to the Ostyak-Samoyed of Tymsko-Karakonsk and the Werchne-Imbazzk Keto.

Both tribes cling to each other and regard each other as brethren. There is also a good deal of intermarriage. In the old traditions of former wars and hostile raids on neighboring tribes one repeatedly meets with references to the offensive and defensive alliance of these two tribes in dim antiquity. On the other hand, the Ostyak-Samoyed treat the Yurak as enemies. The whole of the ample Ostyak-Samoyed folk-lore bears witness to earlier wars with this people. The Yurak, in turn, have no special sympathy with their southern neighbors, whom they contemptuously designate as "habi," slaves. Intermarriages between these peoples are rare exceptions.

¹ This article was designed for the International Americanist Congress, held in 1928, but excluded from the Proceedings because of its purely Asiatic scope. The Editors of the *American Anthropologist* are responsible for the translation from the German original.

As to mode of life, the Ostyak-Samoyed, like the Keto, must be reckoned as primarily fishermen and hunters. Simultaneously, however, the majority of the farmers likewise occupy themselves with reindeer-breeding, which may also be said of the Keto. Their reindeer are distinguished by their size, belonging to the powerful Sayan breed, which is easily distinguished from the far smaller reindeer of the north. According to the method of harnessing and the form of the sledge, the reindeer culture of the Ostyak-Samoyed is closely connected with that of the northern Samoyedic groups.

Quite unexpectedly, however, we encounter among the Baicha Ostyak-Samoyed the other type of reindeer-breeding—the use of reindeer as mounts. This peculiarity among a Samoyedic people is of great interest. We must note, in this context, that, like the Keto and Kargass, the Ostyak-Samoyed sit on the animal's back, while by way of contrast the Tungus straddle the reindeer's shoulders.

Šol-kup reindeer culture also differs from that of the northern Samoyeds as regards pasturage technique. Above all, the Šol-kup lack the watch-dog. In the summer months the reindeer are allowed to enter the woods unguarded. In autumn, after the first snowfall, they are recaptured. Naturally, this procedure leaves the beasts half-tamed. Mating with wild deer is not a rare phenomenon. In several districts fifty percent of the annual increase is due to wild males. These wholly wild reindeer are extraordinarily shy, and it is very difficult to break them to the harness. The cows are especially obstinate in this respect, they will often leave the herd after the first calving and enter the forest with their offspring. In such cases they are shot, while the calves are reincorporated into the herd.

All these details suggest an extremely primitive reindeer-culture. Often one can observe transformation of the Ostyak-Samoyed herder into a hunter of his own beast, following its tracks in the woods. Quite the same procedure is found among the Keto, indicating the identity of the Šol-kup and Keto reindeer-culture.

The same conclusion results from further investigations of the culture of these tribes. The fishing technique (by means of weir-fences), the construction of hunting implements, the bow and arrow and their utilization—all these are quite identical. It is interesting to note that the bow is widely used among both peoples in duck-hunting. Similarly as to house types: in the winter both groups build earth-huts of logs or poles, with a fireplace of poles, covered with clay. The sheds on piles and the reindeer stables with a smoldering fire to ward off gnats in the earlier part of summer are characteristic features. In point of dress we find similarities of detail: in contrast



a. Ostjak Samoyeds duck hunting. *b.* A tamed eagle. *c.* Hearth in an earthen hut of the Šolkup.
d. A Shaman's earth hut.



a. Solkupp pile-shed. *b.* The shaman in search of a soul.
c. A Solkupp shaman's kaftan.

to the northern Samoyed, who wear uniformly tight-fitting upper garments, the Šol-kup and Keto wear clothing with frontal closure.

In non-material culture I also succeeded in ascertaining interesting traits. These include observations warranting the assumption of former totemism. The entire Šol-kup tribe is divided into exogamous moieties, named Eagle tribe (li'mpəl palä'kəl ta'mtər) and Jay² tribe (Kôsəl palakəl tamtər), respectively. In native proverbs and jocular sayings the idea occurs that a Kôsəl Kup, i.e., a Jay man, must under no circumstances kill a jay, because the bird is his brother (ti'mn'a), while the eagle is a brother of all Eagle people.

It is also interesting that a wholly useless bird such as the jay (*Nucifraga careocatactes*) should be tamed by the Ostyak-Samoyed. They are also fond of taming the eagle, whose feathers are attached to arrows.

Ostyak-Samoyed shamanism likewise reveals many interesting details, among them the conception of disease. We find simultaneously the notion of soul-loss and the theory of the intrusion of a pathogenic body so widely spread in North and South America. With these two conceptions is correlated the twofold form of shamanistic treatment I discovered among the Šol-kup: either the alien body is thrust out or the shaman goes in quest of the lost soul. Shamanistic dress agrees with that of the Keto. Most peculiar is the ceremony of infusing life into the shaman's drum, which I also encountered among the Keto. It coincides with the spring migration of birds and lasts all of ten days. The essential feature is the shaman's excursion southward, to a land where "seven suns shine and the rocks reach up to the sky." This trip is undertaken on the back of a reindeer whose skin provides the head of the drum to be animated. But for this purpose the reindeer itself must be animated, and in this process centers the whole of this complicated ceremony.

It would be most important to investigate the ceremony more closely among the Keto also. This would yield the possibility of a thorough-going comparison of the shamanism of these two tribes.

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² The German term is "Nussheher."

SCAPULIMANTIA AND THE MONGOLS

By MARTIN SPRENGLING

IN EDITING, with his friend William C. Graham, the Scholia on the Old Testament of the curious polyhistor Barhebraeus the writer met with a striking interpretation of the term *jadū'ē*, used in the Syriac Bible in Lev. 19: 31; 20: 6, 27; Dt. 18: 11; 1. Sam. 28: 3, 9, 2 Kings 21: 6; 23: 24; Is. 8: 19; 19: 3; Zech. 10: 2. In some of these places some philologists or interpreters insist on a slightly different pronunciation of the word, but it is everywhere essentially the same rendering of the Hebrew *jidd'ōnī*.

The term is used throughout to designate some kind of soothsayer, apparently very common in ancient Palestine but very obnoxious to the religious leaders of Israel. Exactly what type of soothsayers they were, or what methods they used cannot be determined with any degree of certainty. The term, both Hebrew and Syriac is derived from a verbal base *jd'*, which means "to know" and pretty clearly designates these men, like the Arabic *shā'ir*, which later comes to mean "poet," as "knowers," people who in some mysterious way knew more than ordinary mortals.

The Syriac interpreters and lexicographers in general content themselves with a very general definition, such as "men who claim to know hidden things" (see the lexica of Bar Bahlul, of Bar Ali, and of Audo, and the Thesaurus of Payne-Smith *s.v.*). Once or twice they use in the definition the Arabic word *kā'if*, pl. *kāffah*, which more specifically designates a man who is able to see in footprints or in physiognomical features data, especially of a genealogical nature, which are hidden from the ordinary observer.¹ The definitions accompanying this term in the works of the lexicographers make it very doubtful that they meant by it anything so specific. To them both terms seem to have been about as indefinite as our terms "soothsayers" and "fortune tellers."

Almost exactly a century before Barhebraeus, the well-known Dionysius bar Salibi (died 1171) wrote his voluminous and discursive commentaries. Barhebraeus quite evidently used these commentaries rather liberally in compiling his terse and well ordered notes. In this case, however, Bar Salibi has simply the current note: "men who profess to know hidden things" in his comment on the *jadū'ē* of Leviticus 19: 31.

It is the more astonishing, therefore, to find in Barhebraeus a most specific statement, probably wrong so far as the biblical term is concerned, but all the more striking for that reason. He says: "*Jadū'ē* are those who do

¹ See Ignaz Goldziher, *Muhammedanische Studien*, I, 184

soothsaying from the members of human bodies and from the shoulder-blades of sheep."

Whence Barhebraeus derives this specific definition he does not say. In general he leans pretty heavily for such information on his predecessor Bar Salibi. At this point, where he differs so decidedly from Bar Salibi, it will clarify matters considerably to recall a significant event that took place between the time of Bar Salibi (died 1171) and Barhebraeus (1228-1286; his scholia, called *The Storehouse of Mysteries*, were composed 1272/3.²)

Between the years 1256 and 1260 the great and terrible Mongol Īlkhān Hūlāgū crossed the Oxus, took Baghdad (1258), put an end to the Abbassid Caliphate, and conquered for himself an empire reaching from the Oxus nearly to the Mediterranean. This event was felt to be a tremendous disaster by the Mohammedans of those regions. For the Christians it was in the main quite otherwise. The conqueror himself had a Christian wife, as did his successor Abaka (1265-1282). Christians were favored by Hulagu's wife to the detriment of Mohammedans.³ Among the Christians who soon approached the Mongol court and found lasting favor there was Barhebraeus. Very soon after his appointment as Maphreyan (Fructifier) of the Church in the East he managed to present himself at the court of Hulagu in his capacity as physician and to secure from that redoubtable monarch confirmation of his appointment.⁴ This meeting probably took place at one of the favorite residences of this early Mongol court in the West, Maragha, about 50 miles south of Tabriz. We have, indeed, from the pen of Barhebraeus several Syriac translations of Persian quatrains in honor of Hulagu.⁵ Barhebraeus' account of the Mongol conquest of Western Asia and the rule of the first four Ilkhans is long and full of valuable detail, both in the Syriac and in the Arabic form of his *Chronicles* or *Universal Histories*, and, though he registers misdeeds of the Mongols against Christians as well as Moslems, his praise of at least the first two is fulsome and evidently heartfelt.⁶ Thenceforth Barhebraeus spent much time in this newly established royal residence, attracted thither not only by the political

² See Sprengling and Traham, *Barhebraeus' Scholia on the Old Testament*, Part I, p. viii, Chicago, 1931.

³ Barthold, *c.v.* Hulagu, *Enc. of Islam*.

⁴ Gottsberger, *loc. cit.* p. 17.

⁵ Seelabāḏ, *Gregorii Bar-Hebraei Carmina*, p. 170, Ed. Dulbani, p. 165, Jerusalem, 1929. Cf. *Barhebraeus Syriac Chronicles*, Ed. Bruns and Kirsch, 521 (translation, 541, Ed. Bedjan, 496.)

⁶ *Syriac Chronicle*, Ed. Bruns and Kirsch, p. 543 (translation p. 567); Ed. Bedjan, p. 521.

influence which could be gained there, but by the University, the astronomical observatory, and the great library which presently were established there, and by the galaxy of great scholars, like Rashid ed-Din of Tus, who were gathered there. There this polyhistor wrote his Universal Histories, his Handbook of Astronomy, and perhaps, indeed, his very "Storehouse of Mysteries" itself.⁷ There Barhebraeus would see "the *Kamen*, who after the Mongolian manner sought for the secret and the concealed from the shoulderbones of sheep."⁸ More than once Barhebraeus mentions the Mongols in the Scholia themselves. In his notes on Esau he shows clearly that he hopes from them the downfall of Islam and the recrudescence of Christianity. In the Joseph—Potiphar's wife story he cites as a practice of the Mongols, that they gave wives to their eunuchs.

In our passage he does not mention the Mongols. This may possibly indicate that he knew of this practice elsewhere as well as among the Mongols. Andree in his article in the Boas Anniversary Volume speaks of Byzantine mention of it in the eleventh century. Barhebraeus' curious, surprising introduction of it into his biblical notes points, on the other hand, to rather fresh experience and observation. And so, together with Hammer's source, we have in this great polyhistor, the last truly great writer in the Syriac tongue, a welcome addition to Rubruquis, cited by Andree. Two Oriental scholars attest the practice of scapulimancy in the Western Mongol Empire at very nearly the same time that the Westerner Rubruquis gives an account of it as he had observed it in the Far East.

This note cannot for lack of time on the part of the writer bring further material on scapulimancy from Persian, Arabic, and Turkish sources; his intention is to look for such material as he manages to find time and to present it to anthropologists as soon as he can, unless some one else precedes him in this task. For the moment it must suffice to call attention mainly, except for the brief mention of Hammer and his source, to the greatest figure in the history of Syriac letters, a great figure at the Mongol court at Maragha, and himself one of the great galaxy of scholars gathered round them by these early, proud, and potent Mongol monarchs of the West, and the testimony he gives to the prevalence of scapulimancy among them, so

⁷ Gottsberger, *loc. cit.* pp. 19 and 60, Nau, *Livre de l'Ascension de l'Esprit . . . Cours d'Astronomie . . . par . . . Bar-Hebraeus*, Paris, 1900, vol. 2, pp. I-IV.

⁸ Hammer-Purgstall, *Geschichte der Ilchane*. Darmstadt, 1. 391, 1842. From what source Hammer takes this information the writer does not at this writing know.

that this may be added to the one source cited by Andree in his fundamental statement.

It is interesting to note that Barhebraeus brackets scapulimancy with "soothsaying from members of the human body." Does he mean chiromancy? or physiognomy? or members of the dead body?

ORIENTAL INSTITUTE
UNIVERSITY OF CHICAGO

THE LETTERS OF ASHER WRIGHT
TO LEWIS HENRY MORGAN

Edited by BERNHARD J. STERN

THE author of the following letters, Reverend Asher Wright, was a missionary among the Seneca Indians at the time when Lewis Henry Morgan first became interested in the Iroquois. Due to the corrupt steal of the Seneca lands by the Ogden Land Company, the fight against which, on behalf of the Indians, had led to Morgan's adoption into the Hawk clan of the Seneca,¹ Wright was forced to move from the Buffalo Creek Reservation of the Cattaraugus Reservation in 1846. He knew the Seneca language into which he translated parts of the Old and New Testaments. He also prepared a small Seneca dictionary entitled *Go-wana-gwa-he-sat-hah Yon-de-yas-dah-gwah, A Spelling Book in the Seneca Language with English Definitions* (Buffalo Creek Reservation, Mission Press, 1842).²

The letters are in response to an inquiry sent out by Morgan in the preparation of his *Ancient Society* with the objective of checking on his data on the characteristics of a clan. Two excerpts of the first letter were used by Morgan,—a paragraph on the question as to whether the members of a clan were buried in a separate burial place, which Morgan insisted upon in spite of Wright's statement to the contrary,³ and a paragraph on the power of the women in a clan, which he used to illustrate Bachofen's gynecocracy.⁴ The letters, which were found among the Morgan manuscripts now in the library of the University of Rochester, appear worthy of publication in entirety for the data they contain supplementing Morgan's selections.

Cattaraugus Reservation
May 19, 1874

Your favor of the 7th inst. was rec'd by due course of mail but I have delayed replying until today for the purpose of seeing one of the oldest survivors of the Senecas who resides several miles away. The progress of civilization has so far superseded old customs and distinctions that very few of the younger class are able to throw much light upon the topics embraced in your inquiries.

Very anciently the practice was common in this region as well as farther

¹ See the editor's Lewis Henry Morgan: Social Evolutionist, pp. 11-19, Chicago, 1931.

² Henry R. Howland, "The Seneca Mission at Buffalo Creek," Buffalo Hist. Soc. Pub. 6 154-161, 1903

³ Ancient Society, p. 83, Kerr Edition, Chicago, 1907.

⁴ *Ibid.*, p. 464, note. See also F. Engels, *Der Ursprung der Familie* Eng. Trans. pp. 60-61, Chicago, 1902.

West, of placing the dead upon raised scaffolds, until nothing but the dried bones remained. The old man referred to remembers having seen this in a few instances: but in his childhood, say 80 years ago, the custom of interring the dead had become almost universal. While occupying any particular settlement, there was an indiscriminate burial of all who died at that settlement. Whenever, from the failure of their planting grounds or for any other reason, there was a general removal to some new location, the remains were disinterred and taken away to the new settlement where, in some conspicuous place, the bones were assorted and laid together, skulls with skulls, ribs with ribs, arm bones with arm bones, etc. etc. but indiscriminately as to clanship, in as compact a form as possible, and a mound raised over them, after which they were never disturbed. This custom too has been long obsolete. The old man says he was never present to witness it, though he knew it was the ancient practice. Such a mound was standing on the Buffalo Creek Reservation during my residence there, which was opened by a young man residing in my family who found the bones all nicely assorted and laid together in a good state of preservation; and in the center a sacrilegious wood chuck was enjoying his winter nap in a bed of dried grass which he had carried in to keep himself comfortable. At that time I made inquiries of the old men then living, and no one could tell whose remains were in that mound or from what settlement they had been brought. It seemed the general impression that they had belonged to some other nation—perhaps the Quawpaws, or as the French called them *Le Chat*, or Neuter Nation, who at one time dwelt in that vicinity.

I find no trace of the influence of clanship in the burial places of the dead. All young and old believe⁵ they were buried promiscuously. They say however that formerly the members of the different clans more frequently resided together, than they do at the present time; as being one family, they were more under the influence of the family feeling and had less of individual interest. Hence it might occasionally happen, that a large proportion of the dead might be of one clan. This would not however, exclude from burial there one of another clan who might die in that settlement. The clans were always composed of blood relations, the clanship always following the mother, never the father, who must always be of some other clan; for intermarrying in the same clan was counted incest, and universally reprehended. In one respect their funeral ceremonies were affected by clanship. When one died, members of the same clan, being blood kin were regarded as mourners and hence took only the part of mourners at the funeral. The funeral arrangements, the speaking or preaching as they call it in their

⁵ Morgan quoted this as reading "I believe."

language and the burial, including the carrying of the corpse to the grave, must be done by members of some other clans and, if possible, by members of the divisions of clans. You are aware that among the Iroquois the eight clans were divided into two great divisions, those of each division calling themselves brothers, and the other division cousins. The funeral ceremonies were, if possible, all conducted by those who thus stood in the relation of cousins to the clan of the deceased. If none such were present, the duty devolved upon some one of the other brother clans. I can find no other particulars in which burials or funerals were affected by clanship.

In regard to your fourth inquiry, I have not been able to find any evidence of ceremonies, religious or otherwise, pertaining exclusively to a single clan, or to the *dega'non da non dyot* (brotherhood of clans). Ceremonies may have originated in or been practiced by particular neighborhoods; but they were never exclusive, except in the case of secret societies, like the medicine men, or like the initiated women who secretly worshipped a little highly ornamented doll (probably a Catholic image of the virgin) which was never seen by profane eyes; but I cannot learn that initiation into any of these societies was confined to any particular clan; and all indiscriminately participated in all their public festivals; and so far as I can ascertain, in all their dances and amusements.

As to their family system, when occupying the old longhouses it is probable that some one clan predominated, the women taking in husbands, however, from other clans, and sometimes, for a novelty, some of their sons bringing in their young wives, until they felt brave enough to leave their mothers. Usually, the female portion ruled the house, and were doubtless clannish enough about it, generally, if not universally. The stores were in common; but not to the luckless husband or lover who was too shiftless to do his share of the providing. No matter how many children or whatever other goods he might have in the house, he might at any time be ordered to pick up his blanket and budge. After such orders, it would not be at all peaceful for him to attempt to disobey. The house would be too hot for him; and unless saved by the intercession of some aunt or grandmother, he must retreat to his own clan; or, as was often done, go and start a new matrimonial alliance with some other. The women were the great power among the clans, as everywhere else. They did not hesitate when occasion required "to knock the horns off the head" as it was technically termed of any of the chiefs, and send them back to the ranks of the ordinary warriors. The original nomination of the chiefs also always rested with them.

But I shall have to say as the Indians do, *agi wa gat det*, I am making out so long a story . . .

Cattaraugus Reservation
Oct. 6th 1874

I owe you an apology for so long delaying my reply to your favor of the 7th of Sept. I was obliged to delay about two weeks in order to get the testimony of the man who I suppose to be the oldest living Seneca, and since then unavoidable engagements and interruptions have practically forbid my writing until this evening.

The old man referred to above, Wm Johnson, was born in Canada, and says he is now 92 years old. I knew him 42 years ago, and at that time he had the appearance of a man 50 years old, at least, so I judge his statement to be correct. He affirms that Indians had corn, beans, and squashes before they knew anything of white people, although there are varieties of them all which they were unacquainted with till they found them among the whites. The Indians believe they have always had them—that they were given to them originally by their creator, *Há-wěn-ni-yuh'*. I suppose no one questions that maize was indigenous to this continent. Neither can there be any doubt that the ordinary varieties of beans were possessed by the Indians previous to the coming of the whites. But Johnson says decidedly that the squash was not a pumpkin, that the Indian squash was the small scalloped summer squash which they raise to this day, a favorite variety of which is the *o-nyòh'-sah-o-weh'*, that is the *real* squash, (*O-nyòh'-sah*, squash, and *ó-weh*, real, genuine).

This suffix, *o-weh*, is very commonly applied to things peculiarly Indian. Thus, *ó-gweh*, man, *ó-gweh' o-weh*, real man, i.e. Indian. *Ah-dah'-qwa'h*, shoe, sandal etc. *Ah-dah'-gwá-o-weh'*, real shoe, i.e. moccasin, or Indian shoe: although it is not confined exclusively to such a use. They say, *gai'-wa-gwěn-ni-yòh*, it is true or the truth; *gai'-wa-gwěn-ni-yòh-o-weh*, it is the real truth, etc. etc. The fact that this suffix is applied to this variety of squash and never to our pumpkins and winter squashes furnishes strong presumptive evidence if not actually positive evidence that it was not derived from the whites, but has been inherited by the Indians from time immemorial, and that the pumpkin and winter squash were not indigenous at least in the Northern portion of this continent.

Johnson says also that the watermelon, muskmelon, and cucumber were unknown among the Indians till they obtained them from the white people, in which he is no doubt correct; for their names in Seneca are descriptive of differences which distinguish them from the squash, as, *O-nyòh-sat-gus'*—i.e. *raw* squash for watermelon etc.

O-yăh-gwa'h is tobacco,—probably from *O-yăh-gwăăh*, smoke; as being the material used for smoking. *O-yăh-gwa-o-weh*, *real*, i.e. Indian tobacco, is

a very small variety of the tobacco plant, which was very generally used among the Seneca, 40 or 50 years ago and which is still raised and smoked by them occasionally. It differs from our cultivated varieties being much smaller and somewhat rough and by having the ends of the leaves considerably less acuminate. Its flower also is much pleasanter than that of the varieties usually cultivated in the northern states. I have seen the Indians cultivate it wherever it happens to spring up around their houses, or in the fields, but I have never seen any large patch of it. Such may, however, have been raised by them. When I met with Johnson, I had not your letter with me, and I see that to answer all your inquiries I must consult him further.

Cattaraugus Reservation
Oct. 27, 1874

I have just this morning succeeded in obtaining an interview with the old man of whom I wrote before as being the oldest and most reliable authority on the subject to Iroquois antiquities surviving on this Reservation.

He gives the following legend concerning the origin of the clans or *gentes*:

Sometime in the indefinite past five brothers living by themselves alone planted a small piece of corn. When the ears began to mature, they noticed that some of them, night after night, would be broken off and carried away. So they resolved to take turns and watch the field every night, if so be they might succeed in catching the thieves. One night the brother who was on the watch heard a cracking noise, as if ears were being broken off, and running to the place whence the sound proceeded, he found a man picking the corn. He said to him, "What are you doing?" The man replied, "We are hungry." "Well then," said the brother, "come then and eat, but do not steal." "Well we will come," said the man, and the next day, just before sunset, there came a great multitude, so many that there was not enough room for them to stand in the little cornfield. While they were standing around, they heard a voice saying, "We shall all die"; when a sudden panic seized them, and they fled helter-skelter. In their great flight they forgot and left behind one little babe lying upon the ground. The brothers took the child into their wigwam, and brought him up. He had a very broad forehead, and so they named him *Sha-gah-jo-waah* i.e. Big Forehead. With the consent of the brothers, after he was grown up he started on his travels, and coming to a settlement near a beautiful stream, he entered into conversation with the settlers,—praised the beauty of their surroundings and inquired what they found frequenting the fine sand on the margin of the stream. They said, "The *Do-is-do-wih*" (this bird may have been the snipe, as the interpreters generally call it, but it seems more probable that it was the Plover. Both birds seem to have been common in central New York, and it is now impossible to decide which was intended by the Indian name). *Sha-gah-jo-waah* then said, "Well,

you are Snipes then"; and so after that they were always called Snipes, and their descendants constitute till this day the Snipe clan.

The legend goes on to relate how the traveller in a similar way gave names to all the other clans. I believe you are familiar with their names and with their division into two distinct brotherhoods, so that it is not necessary to dwell upon this part of the subject. Each clan has its own chief, and also a voice in the election of all tribal and national chiefs belonging to the clan. As you are aware, each chief bore an official name and the names were the property of the clan. The regular descent of these names, or titles as they might not improperly be termed, was from uncle to nephew on the mother's side. Accordingly, when a boy was born in the line of official descent, the *boy name* standing in that line was given to him and when he became old enough to take the *man's name*, the man's name standing in the same line was applied to him; and as a matter of course, when his uncle the chief died, or was raised to higher rank, he took the *chief's name* in his place. Thus the hereditary principle was carried out in ordinary cases. But suppose the parents should refuse for any reason to give the boy's name which was the first link in the official chain to their child, it would fall to the child of some younger sister or cousin and if there were several candidates, the mothers, aunts, and grandmothers would consult and decide which of them should receive it. So also if the regular heir of office should be guilty of any disqualifying conduct or should prove wanting in any respect, the old people could interfere, throw him out of line and select another in his place: and in a like manner they could depose one already a full chief, who had been guilty of three successive disqualifying acts, and raise the next in line into his place. In the case, however, of tribal and national chiefs, it was customary for the tribe or nation to ratify their action; which they very seldom if ever failed to do. In all these matters the old women of the clans took the lead, so that it used to be said they could put up or put down whomsoever they chose, and they could approve or veto all the acts not only of the councils of their own clan, but those of the tribal and national councils also (in the latter case, in connection with the women of the other clans).

As to the inheritance of property, when a man died his effects went to his mother and brothers and sisters etc. never to his wife or children; they always belonging to another clan. During life husbands and wives held their property separate. Neither had any claim to the property of the other. When a woman died, her property went to her children—through the mother or mother's sister, who were responsible for the care and maintenance of the children. Strictly speaking, therefore, on the death of a man

his effects might be shared by both males and females of his clan, according to nearness of relationship, while on the death of a female, no males could participate, except they were included among her children.

Intermarriage with members of the same clan was strictly forbidden—counted as incest. Names were never interchanged among the clans. Each clan had its own names, which were its exclusive and inviolable property. From these, the mother or grandmother could select at pleasure for her child or grandchild. Other parties could express their preferences but these possessed the right of ultimate determination.

Clansmen were under mutual obligations to assist, defend, or redress each other. If the matter were too grave for the clan to accomplish unaided, the other three clans of their brotherhood were called upon, and then the tribe or nation, if more assistance were required. Clansmen might however call upon members of the other three clans of their own brotherhood first, if they happened to be nearer or more accessible than those of their own clan.

The right to adopt other persons is said to have been strictly an individual right. Anyone might take an outsider as his brother or other relative, and by so doing cause him to become a member of his clan.

Johnson says the clans had no separate burying places, or they buried promiscuously with all others of the same settlement. It was a general custom to deposit with the body such articles of clothing, ornaments, utensils or implements of whatever kind as were known to have been highly prized by the deceased. The position of the body in the grave was upon the back though Johnson says he has heard that in very ancient times it was often placed in a sitting position. It was usually enclosed in bark until the Indians became acquainted with coffins. There were no religious rites or ceremonies peculiar to the clans. Johnson thinks the four great religious festivals originated long before the division into clans or the organization of the confederacy,—and with all other religious observances, from dreams regarded as indicating the will of God. They were engaged in by all without discrimination of clanship, tribe or nationality.

The clans had their separate councils; and questions pertaining to tribal and national interests were first discussed in these, and then the results of their deliberations were taken up to the councils of the tribe and thence, if necessary, to those of the whole confederacy.

The avenging of blood devolved upon the near relatives, clansmen of the murdered victim. Not upon any particular relation, nor was any council necessary. Anyone who felt angry enough or brave enough to volunteer for the purpose would undertake it. The murderer never resisted the exe-

cution. But it was very common for him or his friends to render satisfaction by the gift of wampum of such quantity or quality as the friends would deem sufficient atonement. In all such cases the parties became as good friends as ever. . . .

ENCYCLOPAEDIA OF THE SOCIAL SCIENCES
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TOBACCO CHEWING ON THE NORTHWEST COAST

By ROLAND B. DIXON

THE custom of chewing tobacco with lime as reported among the Tlingit and Haida of the Northwest Coast has long attracted the attention and interest of anthropologists. For on the one hand it was one of a number of isolated instances in North America of chewing instead of smoking tobacco, and on the other it involved the use of lime with a masticatory in a fashion recalling the coca-chewing so widely prevalent in South America. By ardent diffusionists it was further cited as evidence of trans-Pacific cultural diffusion, being attributed like coca-chewing to the influence of betel-chewing Malays and Melanesians. Interpretations of this unusual use of tobacco by the Tlingit and Haida and opinions as to the significance of the practice have varied, but apparently there has been little question as to the fact of its use.

Having had occasion recently to re-examine the problem critically, I was more and more struck by two well-known facts. First, except for the Tlingit and Haida, there was at the end of the eighteenth century no evidence of the knowledge or use of tobacco in any form by any of the coastal tribes south to and including those of Puget sound. On the other hand, north and west of the Tlingit, throughout the rest of Alaska, the knowledge of tobacco was everywhere demonstrably post-European. In the vicinity of the Fraser delta and on the east coast of Vancouver island immediately adjacent, archaeological investigations¹ have revealed a few pipes, analogous with those used in historic times by the Interior Salish, but smoking was apparently no longer practiced in the region at the time of the first European contacts. Secondly, Setchell² on the authority of Newcomb, had identified the tobacco supposed to have been used by the Haida as *Nicotiana attenuata*. This was the species cultivated and used for smoking by the northern Plains tribes and by the Salish of the interior of British Columbia. The species grown along the Columbia river was on the other hand *N. multivalvis*. Now between the Shuswap and Thompson river tribes, who were the northwesternmost Salish peoples known to have smoked tobacco, and the Haida and Tlingit lay the territory occupied by various Athabascan tribes, none of whom seem to have known or used tobacco in any form before European contact. How then could this *N. attenuata* have reached the Tlingit-Haida? The difficulties in the way were so considerable that I began to wonder whether after all it ever did. Furthermore, the species being

¹ H. I. Smith, Archaeology of the Gulf of Georgia and Puget Sound, AMNH-M 4, pt. 6.

² W. A. Setchell, Aboriginal Tobaccos, AA 23: 411.

essentially restricted to a dry and rather warm environment, how could it have been successfully cultivated under the very moist and cool conditions of the Queen Charlotte islands and southern Alaskan coast?

In all of the early accounts of the Tlingit and Haida which I have been able to find, I noted with growing interest that as a matter of fact only one explicitly stated that the plant chewed was *tobacco*. None of the Spanish explorers along the Northwest Coast seem to make any reference to the custom of chewing tobacco or to its use in any form. The earliest mention appears to be by Beresford, the anonymous chronicler of Dixon's voyage in 1787. In speaking of the people at Port Mulgrave (Yakutat bay) he says that they were fond of chewing a plant, "which appears to be a species of tobacco" and adds that they generally mixed it with some lime and sometimes with "the inner rind of the pine tree, together with a resinous substance extracted from it."³ He does not mention the custom among the Haida. The next reference is by Marchand who, speaking of the Tlingit of Sitka sound in 1791 says:

Their custom, like that of almost all natives of America and Asia, is to chew habitually a species of herb, and as soon as they were acquainted with tobacco leaf, they gave it the preference to that which they before employed to satisfy the same want.⁴

He thus appears to have doubted that the Tlingit had tobacco originally, but identified what he saw them using as tobacco. It is probable that the tribes along the coast had already secured some tobacco from the fur-traders who were frequenting the region, but at this date it is likely that the native plant was still mainly in use. Although Marchand, like Dixon, spent some time among the Haida, he does not refer to the custom there.

In the same or the following year, however, Ingraham⁵ states that the Haida chew a plant "which appeared to possess some of the properties of tobacco," and Hoskins⁶ speaking about the region of Rose harbour in the Queen Charlottes declares that the people there "chew tobacco in a green

³ Captains Portlock and Dixon. A Voyage round the World but more particularly to the Northwest Coast of America, performed in 1785-8 in the "King George" and "Queen Charlotte," p. 175. London, 1789.

⁴ E. Marchand, Voyage autour du monde pendant les années 1790-92. Vol. I, p. 254. Paris, 1798-1800.

⁵ J. Ingraham, Journal of the Voyage of the Brigantine "Hope" . . . 1790-92. MS. in the Library of Congress. Quoted by Newcomb, in "Menzies' Journal of Vancouver's Voyage." Archives of British Columbia, Memoirs, vol. V, p. 141.

⁶ J. Hoskins, Narrative of a Voyage to the N. W. Coast of America . . . 1790-93. MS. in Library of the Massachusetts Historical Society, pp. 52-59. Quoted by Newcomb, *loc. cit.*

state, with which they mix a substance resembling lime," adding that he found this plant "growing with wild celery in a meadow." This suggests that the plant was growing wild. I am told by botanists that *Nicotiana attenuata* would not be likely to grow in such surroundings. Vancouver is the next, so far as I know, to report on the question. He states⁷ that Whidbey, who in July 1794 had been surveying in the vicinity of Admiralty island, saw on its western coast "square patches of ground in a state of cultivation, producing a plant which appeared to be a species of tobacco." Vancouver then adds "which we understand is by no means uncommon amongst the inhabitants of the Queen Charlotte Islands, who cultivate much of the plant." This latter information he must have secured from Alexander Menzies, a member of the expedition, who had been among the Haida with Colnett in 1787. The Queen Charlotte islands would thus appear to have been known as a center for the plant, and when, nearly a century later, we get our next significant information about the Haida, this is confirmed. For Dawson,⁸ writing in 1878, says that the Haida formerly grew tobacco not only for themselves, but for trade with the neighboring tribes. At this date, however, its cultivation had been entirely abandoned except by one old woman at Cumshewa. Dawson, however, doubted that the plant called tobacco was really such. For the plant used by the Tlingit on the other hand, a statement made by Tikhmenev seems possibly significant. He says:

In and around Sitka there was a plant the size of whose stalk was not more than that of the ordinary tobacco plant, small-leaved, which the natives mixed with lime burned from shell, and which they use for smoking or putting under their lips. When burning it gave out a pleasant odor. This mixture has no strength. The natives had quite a lucrative trade in this.⁹

Here again the plant is compared with tobacco but not identified with it.

Although Dawson had stated that the cultivation of the supposed tobacco had been given up among the Haida, I wondered whether the plant might not have been likely to survive in the wild state, since tobaccos, grown in the flower garden at least, seed themselves readily and sometimes become almost a pest. Expert botanical opinion however seemed to differ

⁷ G. Vancouver, *Voyage to the North Pacific Ocean . . . 1790-95*. Vol. III, p. 256. London, 1798.

⁸ G. Dawson, *On the Haida Indians of the Queen Charlotte Islands*. Appendix A. Report on the Q.C. Islands, 1878. Geological Survey of Canada, pp. 114-15.

⁹ P. Tikhmenev, *Istoricheskoe obozryenie obrazovaniia rossiisko-amerikanskoi kompanii i dneystvii eyu do nastoyastshago vremeni*, p. 122. St. Petersburg, 1861-63. I am indebted to Mr. A. P. Kashevaroff of the Juneau Museum for calling my attention to this reference.

on this. Some felt that some species might thus tend to perpetuate themselves, others believed that *N. attenuata* at least would not—at any rate under the environmental conditions of the Northwest Coast. However, a search was made of published data and of the collections in the Gray Herbarium of Harvard University, which showed that not only had no specimen of *any* species of *Nicotiana* been collected in the region, but that none had apparently ever been reported anywhere on the Alaskan or British Columbian coast—with one apparent exception. Alexander Menzies who, it will be remembered, had been in the Queen Charlottes with Colnett in 1878 and had accompanied Vancouver on his survey of the whole Northwest Coast, sent back to England a considerable botanical collection. Among the plants was one first described by Lindley¹⁰ in 1824 as *Nicotiana nana* and listed by Hooker in his “*Flora Boreali Americana*”¹¹ with the note that it had been collected by Menzies “on the Northwest coast of America.” Later, however, this plant was shown not to be a *Nicotiana* at all, but apparently *Hesperochiron*, a genus the known range of which at no point reaches the Pacific coast. Menzies therefore could not have collected the plant on the coast anywhere, and anyway it was not a *Nicotiana* after all. It is obvious that some mistake had been made.

That the plant cultivated and used for chewing by the Tlingit and Haida was thus probably not tobacco seems further indicated by two Haida myths. Dawson in 1878 gives¹² an abstract of the Haida account of the origin of tobacco, according to which long ago the Indians had no tobacco, only one plant being known which was growing somewhere far inland in the Stickeen country. It had been caused to grow by a divinity and was tall like a tree. A man shot an arrow at the summit of the tree and at last brought down *one or two seeds*. These he brought home and sowed, and all the tobacco that the Haida afterwards cultivated came from the plants so grown. An analogous incident occurs at the end of a tale collected by Swanton.¹³ In this He-who-was-born-from-his-mother’s-side comes to a people who are shooting leaves off a tall tree and eating the leaves which fall. The hero shoots an arrow at the tree itself, causing it to fall, and then collects the “eggs” of the tree, which are later planted and from which all tobacco is derived. The reputed place of origin of the mysterious plant given by Dawson—far up the Stickeen—most certainly suggests some other plant than a *Nicotiana*. More significant, however, is the statement I have itali-

¹⁰ Bot. Reg. X, tab. 833.

¹¹ Vol. II, p. 91.

¹² *Op. cit.*, p. 152.

¹³ J. R. Swanton, Haida Texts and Myths. BAE-B 29: 233.

cized in Dawson's account, i.e., that the man brought down with his arrow *one or two* seeds. For the seeds of tobacco are extremely minute, almost dust-like, so that this statement could not possibly apply and would seem to refer to some other plant whose seeds are at least of moderate size. That the seeds of the plant actually cultivated by the Haida were in fact of some size would seem to be shown by another myth given by Swanton.¹⁴ In this a gambler divides some tobacco seeds equally between two men who sit beside him, so that because of the sweetness of the seeds they may not reveal him as a cheat. Pretty obviously here seeds of respectable size, not dust-like particles, would seem to be implied. A statement made by Krause¹⁵ may possibly be significant in this connection, for he notes that the Tlingit formerly chewed the root of a species of Lupin which had narcotic qualities. Certainly the seeds of such a plant would far better fit the mythical references than do those of any *Nicotiana*. The Tlingit ascribe the origin of their tobacco to the Raven, who showed the Chilkat the first seeds of it and taught them how to use it, chewing it with burned shells.¹⁶

In the face of the facts here presented, it seems to me probable that the plant cultivated and chewed by the Tlingit and Haida was something other than tobacco. The difficulty of accounting for the presence on the Alaskan and northern British Columbian coast of the supposed *V. attenuata* thus disappears; the significance of the use of an unknown masticatory with lime, of course, still remains. In view of the interest of the question, perhaps some botanist familiar with the flora of the region will suggest what this unknown plant mistaken for tobacco might be. It is possible, also, that it might be to the point for botanists visiting the region to make particular search for the possible survival of some species of *Nicotiana* there.

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¹⁴ *Op. cit.*, p. 54.

¹⁵ A. Krause, *Die Tlinkit Indianer*, p. 158, Jena, 1885. Boas (*BAE*:R 35:199) reports the same of the Kwakiutl, but there is no mention of the use of any lime.

¹⁶ J. R. Swanton, *Tlingit Myths and Texts*. *BAE*:B 39:89.

PROCESS IN THE CHINESE KINSHIP SYSTEM

By A. L. KROEBER

IN THE last number of the *AMERICAN ANTHROPOLOGIST* for 1932, Chen and Shryock contribute an article on Chinese Terms of Relationship which is both valuable for its material and penetrating in its analysis. In one respect their interpretation can be carried farther. The Chinese system appears to consist of a "classificatory," that is non-descriptive,¹ base, which has been made over by additions into a "descriptive" system similar in its working to the English one, in fact is more precisely and successfully descriptive than this. Relationships through males and through females have not been merged as in West European systems; distinction between elder and younger siblings has been kept; and at the same time the number of describing terms is greater than in Europe. The consequence is that the Chinese distinguish precisely, by terms or phrases of specific denotation, a greater number of relationships than we do, without having recourse to circumlocutory or enumerative phrases; and at the same time they have kept more of their former presumably non-descriptive base. In short, their system shows how a non-descriptive system was made over into a descriptive one by devices different from and independent of our own yet very similar so far as their effect or functioning goes. The pointing out of this change is the purpose of the present paper.

The kernel or base of the Chinese system is as follows.

Fu, f.

Mu, m

Tzu, son (also child).

Nu, d.

Hsiung, o br

Ti, y br.

Tzu, o sis.

Mei, y sis.

Tsu, gr. par. (specifically, f's f)

Sun, gr. ch. (specifically, son's son)

¹ The term "classificatory" continues to be used, although all the discussion about it does not meet the objection long ago raised that fundamentally the common criterion of classificatory systems is that they are different from European ones. Until the term is purged of this culturally egocentric connotation, it is as unfortunate as "agglutinative" in linguistics, "Turanian" in ethnology, and "irrational" as a means of distinguishing the other animals from man. Important, too, is Lowie's point (*AA* 30: 264, 1928) that classificatory and descriptive are logically not complementary.

Po, f.'s o. br. (also o. br., h.'s o. br.)

Shu, f.'s y. br. (also h.'s y. br.)

Ku, f.'s sis. (also h.'s m.)

Chiu, m.'s br. (also h.'s f., wife's br.)

Yi, m.'s sis. (also wife's sis.)

Chih, sibling's ch. (since A.D. 265-419; before: wom.'s br.'s d.)

Sheng, sis.'s son, d.'s₂h.

Fu, husband

Ch'i, wife'

Hsu, d.'s h.

Fu, son's w.

Sao, o. br.'s w.

To these can perhaps be added, although they are not separately listed:

Szu, h.'s o. br.'s wife; recipr. betw. wives of brs. (p. 640: 4, n. 54)

Hsiao, h.'s o. sis. (p. 640: 7)

Ta, h.'s y² sis. (p. 640, n. 55)

I do not know whether the terms fu, father, fu, husband, fu, son's wife, and tzu, son, tzu, older sister, are alike or different in tone. The written characters are different, of course. Except possibly for the first two, there can be little doubt that they are independent stems, secondarily more or less assimilated in sound.

It is clear that we have here a system still distinguishing the sex of the connecting relative, and giving age as much emphasis as sex in denoting siblings. In fact, age among parents' siblings may once have been consistently expressed; and, in certain cases, the speaker's sex. Ku-chih and tsusun suggest that more of the terms may have been reciprocal in denotation. Cross-cousin marriage, as Chen and Shryock point out, was abundantly indicated and accounts for the absence of parent-in-law terms. In short, we have before us, still partly preserved, a system as "primitive" as that of most surviving primitives; closely parallel, in most of its essential features, to those of many American, African, and Oceanic natives.

The present Chinese descriptive system is built up from this kernel partly by combining the original terms of relationship listed, and partly by combining them with non-kinship terms which have acquired a specific—but also classifying—kinship meaning, exactly in principle like our "grand," "great," and "in-law." The chief of these metaphorical extensions are:

Tseng, "added, contiguous," has the force of our "great" before "grand"; it denotes lineal relatives one generation farther removed than grandparents and grandchildren.

Kao, "revered, old, ancestors," and Hsuan, "far, distant," go one generation further up and down respectively, corresponding to "great-great" before "grand."

Pao, "placenta," denotes own brothers or sisters, that is, siblings as distinct from cousins. Compare, although the analogy is not exact, our "uterine."

Wai, "outside, foreign," denotes relationship through females.

Nei, "inside, inner," denotes descendants of the wife's brother.

Yo, "high mountain," equals our "in-law" with father and mother, as used by a man.

For different kinds of cousins there are several terms:

T'ang, "hall," denotes first parallel cousins in the male line, that is, the children of brothers.

Yi, the relationship term meaning mother's or wife's sister, also denotes first parallel cousins in the female line, the children of sisters.

Piao, "outside," denotes first cross-cousins.

Tsai, "again, repetition," with Tsung, "follow, attend," denotes second parallel cousins in the male line.

T'ang piao, "hall outside," denotes second cross-cousins

Tsu, "thrice venerated?," denotes third parallel cousins in the male line.

Finally, several true kinship terms, like yi above, are used also with a descriptive or qualifying meaning:

Fu⁽¹⁴²⁾, f., for males of any older generation, whether connected by blood or marriage.

Mu, m., for females ditto.

Fu⁽¹³⁹⁾, h., adult male, for males of one's own or any younger gener., whether connected by blood or marriage.

Fu⁽⁴⁷⁾, son's w., woman, for females ditto.

These last four terms merely denote the sex of the person referred to, when they are added to other kinship terms: they are then understood as not carrying their intrinsic significance. Thus ku is f.'s sis.; but ku fu means not f.'s sis.'s f., but f.'s sis.'s husband, that is, the older male associated with the f.'s sis. Similarly, ku seems not to be ordinarily used alone for f.'s sis, but in the forms: ku mu, lit. "f.'s sis. (who is an) older female"; or anciently ku tzu mei, "f.'s sis. o. sis. y. sis."; or colloquially ku ku, "f.'s sis. f.'s sis.," that is, f.'s sis. who *is* the f.'s sis. and not her husband, viz., f.'s sis. as such.² This kind of usage is well known as characteristic of the Chinese language as a generic vehicle of expression. The "secondary" or mere sex-age qualifying use of these four terms must be clearly distinguished from their use as primary kinship designations retaining their intrinsic meaning.

Nü, d., and Hsü, d.'s h., have analogous secondary use.

A few examples will illustrate how terms are built up from combinations of basic and qualifying elements.

Tsu fu, f.'s f.: lit., "gr.-par. (-par-excellence) old-male."

² Compare colloquial po po for f.'s o. br. instead of the more correct po fu (p. 633, n. 21).

Tsu mu, f.'s m.: "gr.-par. (-par-excellence) old-female."

Wai tsu fu, m.'s f.: "outside gr.-par. old-male."

Wai tsu mu, m.'s m.: "outside gr.-par. old-female"

These four terms show that even if tsu originally denoted only the specific paternal grandfather, it now functions with the meaning of grand-parent.

Sun, son's son.

Sun nü, son's d. (viz., gr.-ch. who is daughter-like in age and sex; *not* son's son's d.)

Wai sun, d.'s son.

Wai sun fu, his wife.

Wai sun nü, d.'s d.

Tseng tsu mu, f.'s f.'s m.

Wai tseng tsu mu, m.'s f.'s m

Tseng sun, son's son's son.

Kao tsu fu, f.'s f.'s f.'s f.

Hsuan sun nü, son's son's son's d.

Pao hsiung, o. br.

Pao tzu fu, o. sis.'s h.

T'ang ti, f.'s br.'s son, younger than self, i e , 1st par. cous. through males.

Yi hsiung, m.'s sis.'s son, older than self; i.e., 1st par. cous. through females.

Tsai tsung ti, f.'s f.'s br.'s son's son, y. than self; i.e., 2nd par. cous. through males.

Tsu ti, 3rd par. cous. through males, y. than self.

Piao ti, f.'s sis.'s son, y.; also, m.'s br.'s son, y.; hence, any male cross cous y. than self.

T'ang piao hsiung, f.'s f.'s br.'s d.'s son, o.; also, m.'s f.'s br.'s son's son, o.; hence male 2nd cross cous o than self.

Yo mu, wife's m.

Chih, br.'s son.

Chih nu, br.'s d.

Wai sheng, sis.'s son; "outside sis.'s-son."

Wai sheng nu, sis.'s d.; "outside sis.'s-son d."

T'ang chih, f.'s br.'s son's son; "half sibling's-child"; i.e., son of 1st par. cous. thr. males.

Nei chih fu, wife's br.'s son's w.; "inside sibling's-child wife."

Nei chih sun, wife's br.'s son's son; "inside sibling's-child son's-son"; or, "through-wife collateral grand-child."

Returning now to a consideration of the pure kinship term basis of the system in the light of the system as a whole, we may infer a reconstruction

of this as it presumably was before the descriptive additions had begun to luxuriate. It seems certainly to have been a bifurcate-collateral system, in Lowie's terminology;³ that is, paternal and maternal uncles and aunts were distinguished from one another as well as from the parents. The same principle perhaps applied to grandparents; that is, four were distinguished, by separate terms, of which one survives, used sometimes in its presumable original specific sense, and sometimes with metaphorical extension to denote grandparental relation of any sort. Nephews-nieces and grandchildren quite likely were similarly distinguished according as their descent was from male or female kin. There is a hint of indication in the preserved old meaning of *chih* that the terms for nephews-nieces (and perhaps grandchildren) may have been exact correlates or conceptual reciprocals of the uncle-aunt (and grandparent) terms. In full form, this would have involved designation of sex of the older speaker in place of sex of the younger relative, as in some western American systems; but the evidence is insufficient to affirm that the influence of the reciprocity idea was as strong as this. Seniority was given enforced expression in sibling terms, there being no word for "brother" or "sibling" in general. Relative seniority may also once have been given wider expression in the uncle-aunt terminology; for which there would again be West American precedent. Words for affinities by marriage were probably restricted in number because cross-cousin marriage, or the habit of thinking in terms of such marriage, suggested blood-kin term designations in their place. There are however some puzzling remnants of sibling-in-law terms. There is no indication of how cousins were called, either parallel or cross, near or remote, since the present designations are all built up on sibling terms, and these would perhaps not have been employed throughout with normalized cross-cousin marriage.

All in all, the indications are of a former system generically similar to that of many primitive peoples, especially in western America; rather like that of the Cocopa, for instance, as described by Gifford.⁴

The development of the descriptive or qualifying part of the Chinese system probably resulted in some elements of the older system becoming unnecessary and being dropped, and others suffering a change of denotation. The new trends due to the descriptive additions however did not blur at any point the rigorous distinction made between kinship in the male and the female line, either ascending or descending; nor between older and younger siblings. The desire to express these two sets of distinctions is common to the hypothetical old non-descriptive and the historical and

³ AA 30: 263, 1928.

⁴ UC-PAAE 18 67, 1922.

present-day descriptive Chinese system. Neither distinction is observed in English or, at least extensively, in most West European systems. The former seems to have become lost with us as our systems became descriptive; the latter either was lost or had never been present. To this extent then the Chinese system remains the richer and fuller instrument.

The Chinese impulse toward specific denotation has resulted further in the choice of descriptive classifiers which allow of the exact expression of a great many relationships. Chen and Shryock cite 270 terms; and it is evident that the list might be considerably enlarged by applying the cited elements in somewhat altered combinations. To be sure, not all of the 270 terms are in customary use; but apparently they would all be readily understood. It would be going too far to say that the Chinese apparatus suffices for the unambiguous designation of every conceivable variation of relationship within the seventh or eighth degree. But it certainly does specify a very much larger portion of the total possibilities than do any European systems.

Take for instance *t'ang ti*, the father's brother's son younger than oneself. Apart from the seniority which the Chinese term expresses, we cannot possibly, even with expletive auxiliaries, specify this particular relative. "Paternal male cousin" is ambiguous between the father's brother's and father's sister's son; and the phrase would hardly be used ordinarily, and might then be considered difficult or puzzling. We have just one way to designate this particular relationship precisely: by enumerating the successive steps of kinship first up and then down; or jointly down from a common ancestor. This method of step-enumeration is what we actually fall back upon as soon as the precise denotation of all but the nearest kinship becomes necessary for purposes of science or law or property inheritance. It is a last resource left us after our system, which is built on the fewest possible summarily classificatory principles, is exhausted. We are like people whose number system is so deficient that when they want to add or multiply above ten they have to fall back on manipulating counters. One interest of the Chinese system is its exemplification that a descriptive kinship system can be at once inclusive and exact. This result is achieved both by the retention of presumably archaic features, such as the categories distinguishing the male from the female line and the older from the younger sibling; and by the formation of descriptive auxiliaries chosen so as to serve fine instead of gross denotation. The Chinese obviously remain interested in kinship, whereas we want to refer to it as sketchily as possible. To use another simile, they are like people who want to know the exact time, we like those who would rather estimate by the sun than be bothered to keep clocks running.

This lumping-by-all-means quality of our kinship thinking is a very real reason why the term "classificatory" as applied to other cultures is misleading in its implications.

In one respect the Chinese and European systems are alike: a man and a woman who stand by birth in the same relation to a third person call him by the same term, in all cases. Put differently, the category of sex of speaker is absent.⁵

At another point, Chinese usage parallels a recent English tendency. Chen and Shryock say of the terms used by the wife for her husband's relatives that these

are not common today, for the wife generally uses the same terms as her husband in referring to members of his clan [*sic*, i e., relatives].

This is like our habit, especially perhaps among those of pious antecedents, of referring to a brother-in-law as brother, and so on. There is however the difference that our usage is two-way, the Chinese by the wife only.

The actual successive steps in the transformation of the Chinese kinship system from its prehistoric to its historic phase can of course be traced only by the intimate historian of Chinese language and culture. It does however seem reasonably clear that there were such phases and what they were. Starting out apparently with a non-descriptive system similar to those of many genuinely primitive peoples, the Chinese have elaborated this into a supple instrument by the development of descriptive additions strongly reminiscent of the descriptive elements in modern European systems, as regards their general character, but quite different in specific content and function. By judicious selection of these added elements and at the same time retention of a considerable variety of distinctions expressed in earlier times, they have built up a rich system where ours is deliberately impoverished. From the point of view of theory, the interest of these phenomena lies in their presenting a second instance, and with little doubt a historically independent one, of the development of a kinship nomenclature of "descriptive" type; in both cases presumably in association with the transition from a lower or barbaric to a higher or "civilized" stage of culture; and yet with the resultant products very diverse; presumably because only the direction of the trends was similar, the historic antecedents as well as the specifically shaping historic influences being different in the two growths.

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⁵ It is an interesting question how often, the world over, the expression of this category is a function of the reciprocal principle, as in western North American and Australia.

ERLAND NORDENSKIÖLD¹

By ROBERT H. LOWIE

NILS ERLAND HERBERT NORDENSKIÖLD was born in Stockholm July 19, 1877. His father, Baron Adolf Erik, was the illustrious discoverer of the Northeast passage, and from him Erland inherited his scientific bent. Devoting himself to geological and paleontological studies at Upsala, he graduated in 1898 as "fil kandidat" and almost immediately set out on a field expedition to Patagonia, which laid the foundation of his future career. In 1901-1902 there followed a trip to the Argentine and Bolivia; in 1904-1905 another to Bolivia and Peru. He revisited Bolivia in 1908-1909, and again in 1913-1914, this time including Brazil; and in 1927 he set out for Panama and Colombia. Very early his interests shifted from natural history to culture, so that archaeological and ethnographic research became henceforth his primary objective. After an apprenticeship at the Riksmuseum in Stockholm, he was appointed in 1913 "intendent" of the Goteborgs (Gothenburg) Museum, which his energy raised to one of the model institutions of the world. This position was subsequently (1924) combined with a professorship at the University (Hogskola) of Gothenburg, which eight years before had conferred on him an honorary Ph.D. Other distinctions fell to his share as he came to play an increasingly prominent part in international affairs of science. He was General Secretary of the International Americanists Congress in Gothenburg (1924), visiting professor at the University of California (1926), and Huxley lecturer (1929). He maintained cordial relations with many foreign colleagues, notably with Dr. Rivet, to whose *Journal de la Société des Américanistes de Paris* he contributed a number of significant articles.

Nordenskiöld's health had undergone serious strain during his last South American expedition. In March 1932 he was again taken ill and a combination of intestinal trouble and malaria brought on the end, which occurred on July 5, 1932.

Nordenskiöld published one synthetic work on South America, *De sydamerikanska indianernas kulturhistoria* (1912). For his California lectures he brought the book up to date and the revised form was translated

¹ The Editor is indebted for some of the biographical data to Mr. Henry Wassén of the Goteborgs Museum, who also provided the photograph and obituaries in the Goteborgs Morgonpost of July 6 and the Goteborgs Handels- och Sjöfarts-Tidning of July 5, 1932. The Bibliography also was contributed by Mr. Wassén from an article prepared by him for the Revista del Instituto de Etnología de la Universidad Nacional de Tucumán.



Nils Erland Herbert Nordenskiöld

into English by Miss Söderblom (Mrs. Webster), but never published. Of his other books, *Indianlif i Gran Chaco* (1910), *Indianer och vita i nordostra Bolivia* (1911), *Forskningar och aventyr i Sydamerika* (1915) were issued also in German and thus exercised a wide influence. *Ars Americana*, *L'archéologie du Bassin de l'Amazone* (1930) appeared in French (see *American Anthropologist* 33: 433, 1931). The *Comparative Ethnographical Studies*, 9 volumes (1919–1931), were published in English.

I first met Nordenskiöld at the International Americanists Congress at Gothenburg in 1924. As General Secretary he displayed a solicitude for the individual comfort of the foreign guests that will be gratefully remembered. Likewise, his consummate tact in handling the still delicate problems incident to an international gathering in those days evoked admiration.

In the autumn of 1926 Nordenskiöld gave a lecture course on South American ethnography at the University of California, as well as a seminar in which the connections of the two main divisions of the New World received special consideration. His uncompromising thoroughness awed stray undergraduates but made a profound impression on the professionally minded among his auditors. Simple in manner, he had a reserve that checked ready intimacy, but virtually daily contact during a semester led to a deeper acquaintance, henceforth maintained by an intermittent correspondence and refreshed at the Hamburg Congress in 1930. Nordenskiöld was not a man of small talk and would himself speak deprecatorily of his social gifts, as he did of his far from mean mastery of several tongues. "I can talk about nothing but South American Indians," he once remarked in my hearing; and the ardor with which he could enlarge on the geographical distribution, of say, fire-fans was indeed at times staggering. Yet there were facets of his personality undivined at first blush but revealed on closer knowledge. Out of a blue sky would come a quotation from Villon's poetry; extempore, yet fluently and with the graciousness of a man of the world, he could respond in English to speeches in his honor; and of the strange medley of customs a European encounters on the Pacific coast he became a keen and kindly, if periodically amused, spectator.

But it was certainly Ethnography that occupied the centre of his being, and he spared no energy to scan collections and improve his acquaintance with North American data. Tempted by a site near Lodi, California, he and several graduate students organized a series of archaeological field trips. He was up at five, summoning the party to work, enthusiastically participated in the excavation, and allowed little indeed to escape his

myopic eyes peering through the screen. Nor have I ever seen him more genial and expansive than after a hard day's digging, when he would fall to bandying American Indian folk-tales with the rest of us or beguiling the hours with a card-game.

His scientific achievement centres in his *Comparative Ethnographical Studies* with their perfection of a cartographic technique that has never been excelled and has become the distinctive badge of his school. With exemplary conscientiousness he approached the task of plotting distributions; he ransacked the available literature in all languages and incorporated the results of archaeological as well as of ethnographic research. His field researches were models of sobriety, tempered with a never disguised fondness for the natives as human beings. He started his career as a zoologist, and the departments of culture that naturally appealed to him were technology and archaeology, interests fostered by his museum affiliations. But even his earlier books of travel embody useful notes on social custom, religious belief, and mythology; and in his latest phase, matters of primitive faith and world-view definitely attracted him.

Nordenskiöld was not a philosopher and shunned abstract discussion. But he was not content to remain a faithful reporter or a mere virtuoso of cartography. He appraised distributions in terms of history, steering a middle course between an outdated evolutionism and an extravagant diffusionism. Few foreign students came closer to the attitude commonly assumed in this country. Vindicating the inventiveness of the American aborigines, he considered the higher cultures of the New World as basically indigenous. On the other hand, he was open-minded as to trans-Pacific influences of lesser scope. He found Melanesian rather than Polynesian parallels indicated; and that such parallels prove transfer from Oceania rather than in the reverse direction was, he insisted, sheer dogmatism (*Comparative Ethnological Studies* 9:30, 1931). He believed, of course, in some contacts between Peru and Southern Mexico, but stressed the diversities as well as the resemblances. "Hitherto," he wrote, "there has not been discovered in South America a single object of indisputable Mexican or Central American manufacture" (*ibid.*, 56). He rightly insisted that, here, too, there probably had not been an irreversible stream of culture in one direction. Specifically, he argued that the South Americans were not to be treated as passive recipients. For example, metallurgically, the Peruvians were unequivocally superior, and in ceramics they showed greater variety and greater progress in naturalism than the Central Americans.

Apart from historical interpretation, Nordenskiöld demonstrated significant positive correlations between geographical environment and cul-

ture. He had a genuine feeling for technological problems and knew when to requisition the services of specialists for their solution.

As witnessed by the writings of Linné, Montell, Métraux, Wassén, Izikowitz, Nordenskiöld's methodical procedure, his conscientious scrutiny of documentary material, his sober examination of evidence, his sympathetic approach to the natives, have become the heritage of a school. Its leader has an assured niche in the history of Americanist research and in the regard of those who knew him.

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BOOK REVIEWS

METHODS AND PRINCIPLES

Hunger and Work in a Savage Tribe. A Functional Study of Nutrition among the Southern Bantu. AUDREY I. RICHARDS With a Preface by Professor B. MALINOWSKI. (xvi and 238 pp., 10s 6d. London: George Routledge & Sons, Ltd., 1932.)

When I read Professor Malinowski's Preface to this book my heart sank. For the Professor seems ready to renounce sex as a fundamental drive in social life and to substitute hunger. My only objection is that this would be the beginning of an endless circle of substitutions.

But the author is not concerned with this problem. She deals not with hunger and work, as the title would imply, but with foods and their utilization, which is something rather different even in a world in which all things are related. There is not much discussion of economic organization or of technology as such; the stress is laid on the functional side of the activities concerned with the securing or the utilization of food. To this topic the author makes an original contribution by pointing out the social and psychological sides of the food quest and of eating among the South African peoples.

WILSON D. WALLIS

Handbook of Ethnography. JAMES G. LEYBURN. (323 pages, 6 maps. New Haven: Yale University Press, 1931.)

That Mr. Leyburn has done a tremendous amount of work is undeniable, but to what avail is another question. While many students from other fields are now using anthropological data, few serious workers lack the initiative or the resources for finding out where any important group is located. This may be a narrow point of view, so let us grant the necessity for such a compilation and turn to the validity of the present work.

In the American field, which the present writer can judge most accurately, the author has frequently used the least known of possible spellings for many Indian tribes, moreover in many cases also the least known name. For example, the Nootka of the west coast of Vancouver Island are referred to in some of the older literature as the Aht. Mr. Leyburn lists them by this name, but no reference is made to the fact that these people and the Nootka, also listed, are one and the same. In the lists given under political divisions there is no distinction made between names of tribes and terms used for whole linguistic families, and there, more than in other parts of the book, obsolete spellings are used with no cross-references. Again the selection of tribes in the United States and Canada includes many insignificant sub-groups and omits many important ones. While the references to the politically divided maps give one an impression as to the general location of a tribe, it is not sufficiently accurate to be of much value.

It is regrettable that such a work was not undertaken by one who had a practical and first-hand knowledge of ethnography, but perhaps such a person, like the present writer, would not see the actual use of it

ERNA GUNTHER

The Social Life of Monkeys and Apes. S. ZUCKERMAN. (International Library of Psychology, Philosophy, and Scientific Method 356 pp., 24 pls. \$3.75 New York Harcourt, Brace and Co., 1932.)

The author, an anatomist by profession, has written a book the first half of which is physiologically concerned with the oestrous cycle and sexual periodicity and the other half with the sexual and social behavior of living primates, especially baboons. Most of the observations were made on animals in captivity under fairly satisfactory conditions in London and Germany; but these were supplemented with field studies in Africa.

The book contains much psychology of a soundly behavioristic character. The baboon is an almost incredibly sexualized species. The sexual activity reaches its peak in the inter-menstrual periods of the female, but, far from being confined to these periods, is spread diffusely or overtly through practically the whole waking life of every individual from infancy on. Social relations are throughout shaped by sexual drives and activities, they find their expression largely through them. The baboon would apparently have little society if it were not for his sex. The relations between individuals regularly take shape in the establishment of physiological and psychological dominance. This dominance, which of course need not ordinarily have been sexual at all, is, however, regularly tinged with sexuality in the baboon when it is not outrightly sexual. Similar findings were reported for a smaller primate species by Kempf some years ago, but on a far slenderer basis of observational data. It is not to be inferred that anthropoid social relations are as one sidedly colored as those of the baboon; yet it cannot but be evident that they are under the influence of similar tendencies, though to a much milder degree. With all these definite social relations the baboons however, as might be expected, do not show a trace of culture. They do not even recognize death as a condition. It may therefore be inferred that the discovery of this realization is a human invention, in the sense of being a product of culture. Zuckerman's data on this point are clear and convincing.

The book is a strictly scientific one and will be of interest as well as value to every anthropologist.

A. L. KROEBER

The Sciences of Man in the Making: An Orientation Book. EDWIN A. KIRKPATRICK (\$3. N.Y., Harcourt Brace and Co., 1932.)

The title of this book is a disappointing misnomer. It suggests that here at last is the urgently needed and long desired history of the social sciences; formulated for freshmen students, but presenting, at least in outline, the tangled past of the

great disciplines devoted to humanistic inquiry. The author, however, disclaims this ambitious task for a more modest role. He

assumes to act merely as a guide in revealing some of the general truths regarding man and his place in nature, and illustrating the methods of research employed in various sciences of man.

The first chapter begins appropriately with a discussion of the nature and methods of science. It is followed by fourteen others which deal in turn with man as an organism and man as an animal with culture; with hygiene and eugenics; with man in his economic and political relationships; with general, individual and social psychology; with sociology; with man and religion; and finally with human morals and ethics. In nearly all of these the recent revival of interest in the problem of social change is clearly reflected. In the chapter on anthropology, the author concerns himself with the tendencies of cultures to persist and the factors favoring cultural modification. By implication, government is held to exist for the control of undesirable innovation. Education, guided by science, is envisaged as established to maintain, and perhaps improve upon, the culture of the present generation.

The chapter on eugenics, of course, can have no other objective than an inquiry into the means of "securing the birth of better types of the human species." Economics, on the whole, is treated as a science formulated to overcome habits of waste in production and consumption. The sociologist is presented as a student of the criteria of progress from whom may be expected, in time, the foundations of a science of social prediction.

But in attacking this ancient problem, Professor Kirkpatrick, like many other sociologists and psychologists preoccupied with the immediate amelioration of conditions, falls between two stools. On the one hand, he proposes to give an objective statement of the procedure for the study of social change, divorced from problems of social reform. On the other, he endeavors again and again to suggest how the knowledge so gained may be applied to attain desirable social ends. Animated, furthermore, by the widely entertained but little-explored persuasion that the "problems of the social sciences do not differ from physics in kind," the fundamental fields of philosophy and history are excluded from consideration. The problem of social change for him is not to be apprehended by an examination of the various solutions which have been offered during the history of western thought. Cultural changes are not phenomena to be studied by the comparison of the histories of peoples who have recorded the experience. The author is committed, on the contrary, to those procedures in the physical sciences which arrive at the statement of a natural law of change by abstracting from the historical. Ignoring the long record of sterile search based upon such assumptions, he asserts that the same methods, exact measurement, experimentation and statistical investigation which have brought success in the one, will ultimately bring success in the other.

Owing largely to the absence of historical and philosophical perspective, so common today among social scientists, the book is full of irreconcilable objectives

and contradictory conclusions. For example, in the relatively few pages which deal expressly with anthropology, Professor Kirkpatrick comments favorably on the fact that inquiry into the factors producing differences has replaced an interest in similarities. Workers in the field are also commended for the abandonment of the search for universal origins and the repudiation of the developmental or evolutionary theory that all human groups have passed through the same series of cultural stages. In other sections of the book, however, the author himself resorts to explanations in terms of an evolutionary reconstruction of the early stages of human society. He refers repeatedly to the development of culture, as though the comparative method and the presuppositions of developmentalism were to be accepted as approved principles of organization in the study of social change. He affirms a belief in the Darwinian interpretation of cultural evolution by suggesting that cultural traits are subject to both biological and societal selection. In other words, Professor Kirkpatrick has been betrayed by his own decision to exclude philosophy and history from the roster of social disciplines. In dismissing developmentalism, an hypothesis derived from an eighteenth century analogy between the physical and social sciences, he is led unwittingly to impeach a theory based upon the very procedure he elsewhere recommends. In resorting on occasion to evolutionary conceptions of change, he relies upon presuppositions he elsewhere condemns.

On the whole, the subject of the book is timely and compelling. The interest of the entering college student may well be stirred by its sweep and enthusiasm. But its treatment leads to confusion and doubt. As the author well says,

The complexity of man's nature, his intimate relation to earth forces and to all living things, and especially his reactions to his fellow man and the influence of his past history upon his present life, make all studies concerning him particularly difficult.

That being the case, a definitive study of the "making" of the social sciences waits upon a prior analysis of underlying philosophical assumptions, together with a history of the methodological ideas employed in humanistic inquiry.

MARGARET T. HODGEN

Faith, Hope, and Charity in Primitive Religion. R. R. MARETT. (239 pp. New York, The Macmillan Company, 1932.)

I think that if forty or fifty years ago a book on primitive religion had appeared under the title *Faith, Hope and Charity in Primitive Religion*, the great majority of readers would have thought it to be the work of a pious missionary writing for purposes of religious edification. It is a sign of the changes which have taken place in recent years that a book with this title has been written by Dr. Marett, Fellow of the British Academy, Rector of Exeter College and University Reader in Social Anthropology at Oxford; and that it has been written, not in the mild, ironical style which we know this author often prefers, but in deep and earnest sincerity.

We shall understand better how he came to write this book if we read not only the title of the whole book but those of the different chapters: I. The Religious

Complex; II. Hope; III. Fear; IV. Lust; V. Cruelty; VI. Faith; VII. Conscience; VIII. Curiosity; IX. Admiration; X. Charity. Thus it appears that it is not so much the theological triad faith, hope, and charity with which the book is concerned, but the psychological side of religion in general, and especially (leaving aside the parts played by thinking and acting—he recognizes that these exist, and have their importance) the part played by feeling. As he expresses it,

It remains, then, to assign its due to feeling as by far the most fruitful element in the religious experience of the savage (p. 15).

It is his opinion that thinking has "the weakest claim to be accounted a source of value" to the savage. In this he certainly underrates primitive religious thinking; P. Radin's *Primitive Man as Philosopher* would by itself furnish him with materials for a different estimate.

But it remains true that in many works dealing with primitive religion the side of feeling has not been considered as much as its high importance deserved. I have explained it myself in my *Ursprung der Gottesidee* (I, 2, p. 626). Since, then, the utility or necessity of doing more to emphasize this side of religion, still in most cases so obscure, cannot be denied, we must be gratified that Dr. Marett has undertaken the task, there are not many anthropologists who possess, as he does, the quite special qualifications that are needed for dealing with it usefully. Nobody will regret taking up Dr. Marett's book; the reader is rewarded by the abundance of fine psychological remarks about the nature, the development, and especially the biological value of religion. More than once, it is true, he will be tempted to criticize the author's views; all the more because Dr. Marett is a master in the art of stating his views provocatively. But if he perseveres he will find in Dr. Marett's words a surprising solution of a problem which is presented by him in a new and striking form. On certain points, perhaps, he will not approve of Dr. Marett's solution; but at least it will have shown him that his own solution needs more and stronger confirmation.

It is reassuring to notice what a high biological value the author attributes to religion, to have shown this and to have illustrated it from many sources is one of the book's greatest merits. There is some exceedingly beautiful writing in Chapter II, where he declares in favour of hope, rather than fear, as the mother-feeling in religion (pp. 28. sqq.), and praises the courage and confidence of primitive man, the conquests of the first fire-maker, the first believer in immortality, the first subjugator of beasts, and the religious artist working in the dark, mysterious caves. To exemplify numerous passages that are full of wit and spirit let me quote the following (p. 42):

The other animals just live, but man has superfluous energy enough to say to himself as he lives, 'Here I am, living', and somehow it helps him to live better. By a tortuous effort of mental gymnastics he pats himself on his own back, and is greatly cheered.

In the third chapter he does not overlook the importance of fear, too, in religion, especially in reinforcing its disciplinary character (pp. 64 sqq.) with the idea of hell, the maintenance of society, and the system of moral education; but

even so, hope is of superior importance, since ultimately we fear because we hope, not *vice versa*.

So in the other chapters he deals in the same very instructive, often almost fascinating manner, with such seemingly opposed feelings as lust and cruelty, faith and curiosity, and shows the biological importance of each in and for religion. Some passages I would acclaim as cabinet-pieces of fine psychological insight. So when he explains the biological importance of children's play (pp. 123 sqq.); the respective parts played by Habit and Attention in human activity (pp. 140 sqq.), the psychological difference between remorse and penitence, and the higher value of the latter (pp. 151 sqq.), and the confession of sins (pp. 163 sqq.), where he says, the penitent

may deserve to be exorcized and repelled like an unclean spirit, yet he is no stranger but an exile, with a home-sickness

On the relations between religion and science (pp. 193 sqq.), it must suffice to quote the last sentence:

In any case, truth of fact, though only one kind of truth, must be held by science and by religion in equal respect. It is only, however, when the pursuit of such truth inspires a life otherwise full of beauty and moral goodness that science rises to the level of religion; and it is certain that such a pathway to religion proves the most accessible and attractive to many of the noblest spirits of our time.

The most brilliant chapter, in my judgment, is Chapter IX, "Admiration" (pp. 195-219), which deals with the relation of art in general, and primitive art in particular, to religion. It is impossible to enter upon a detailed exposition of it, enough to say that here the author's emphasizing of the importance of feeling in religion finds its most valuable confirmation. The mutual benefit derived from the association of art and religion is defined by him as follows (p. 200):

Religion can help art to realize that the form is of God, whereas the style is merely of the copyist Man. On the other hand, fine art can help religion to reorganize the formal beauty of the archetypes provided by *Deus sive Natura*.

And about these archetypes he writes (p. 209):

Fine art abhors the abnormal. Satyrs, centaurs, and even mermaids cannot rise far above the grotesque, while the androgynous is always allied to the obscene. Beauty is neither for the frivolous nor for the unchaste, but is the reward of a certain sanity of soul, which disciplines the imagination so that it observes the mean, and hence rejects the monstrous in all its forms.

In considering the rôle of the different arts in religion he says of architecture (p. 214):

Architecture might almost be said to come into being under the inspiration of religion; for the idea of a God's house awoke the imagination of the builder as that of a man's house had never done before. May it be long before a country is prouder of its railway-stations and banks than of its temples!

I am afraid I shall be a disappointment to Dr. Marett, in not finding his last chapter (X) on "Charity" the best and most important of all. He himself appears to do so, when he keeps it to the last, and begins it with the words,

A concluding lecture must somewhere conclude, and an argument which reserves its last word for the subject of charity can surely claim to be received in a like spirit.

But it is just in this chapter—*corruptio optimi pessima*—that a serious defect of the whole work makes itself painfully felt. I mean its almost complete failure to use historical method and to establish historical foundations for the psychological explanations it gives. It is not that he opposes such methods; what is perhaps worse, he does not even mention their existence. Or rather, to be accurate, he does mention them once, when he alludes to the functional theory of Prof. Malinowski, which he approves, and finds

opposed . . . to a method of origins which traces the back history of the various forms.

That is all; and it will be admitted that it is not much.

It is also much to be regretted that he does not apply the results of historical research to his psychological considerations. To one who approaches the book from the angle of historical ethnology, many of Dr. Marett's constructions will appear to be built on air, so completely do they disregard, sometimes, realities already positively established. Thus, it is strange that Dr. Marett, who has been so much occupied with the work of Andrew Lang, is content to allude to its object in a single line (p. 176; cf. also p. 14) to

the more or less godless kind of wonderworking rite, which *in point of time may well have been prior* (the italics are my own).

It is strange that, even as a psychologist, he should not follow up the question whether the object of religion is personal or impersonal. The feelings of man as person to a personal God will differ in kind from his feelings towards an impersonal object of religion. In view of the fact that precisely the oldest people we know—among them some of "the remotest Paleolithic era"—practise the primitival sacrifice of all they obtain in hunting animals, the "realistic" description of "such folk, for whom killing and eating will be a bloody business" (p. 99) appears on the contrary very fantastic. It is a pity that the author dwells so much on Aranda religion as a specimen of primitive religion, whereas it is a very young form of it, and highly specialized in every respect. So, in general, the question of ethnological age is never raised, though it is of capital importance for deciding the question whether one element can be the cause of another, or is the effect of it.

These considerations apply, when he affirms (p. 148) that

it is only in a slight degree, if at all, that the savage appreciates right in and for its intrinsic, reasonableness,

and then talks of

the primitive or low-grade type of conscience.

How it is possible to maintain that senicide

can be shown to have formerly been a fairly common custom with primitive peoples (p. 105), when it can be shown on the contrary that it belongs only to certain phases of matrilinear culture? It is astonishing that Dr. Marett in many passages persists in assuming the priority of mother-right in racial development, and thus fails to grasp in their true significance the position and value of women in religion (pp. 157, 183 sqq.). It is for this reason especially that his last chapter on "Charity" has missed the perfection it might otherwise have reached, the author overestimates the importance of women in contributing towards the origin and development of charity in the oldest human society, which cannot be asserted as he asserts it (pp. 222 sqq.). It is distressing to find the old affirmation that

the typical savage belongs either to his mother's or to his father's people, and, one may be pretty sure, originally to his mother's,

when historical ethnology has made it "pretty sure" that the contrary is the case. In this way, unfortunately, many of his finest thoughts fall to the ground, based as they are on his false assumptions. Thus, too, we hear nothing of the remarkable fact that the Supreme Being of the oldest human stock, who is of imperturbable bountifulness towards man, bears so often the name of "father" and never, among the oldest tribes, that of "mother"—and this, although this Being is always asexual, has no wife or children, and does not generate, but creates

Here I must conclude, though I trust that the importance of Dr. Marett's book will justify the length at which I have reviewed it. Why and whence this lamentable absence of historical treatment, amidst so much excellent psychological work? What splendid results might have been achieved if both requirements had been fulfilled, and his ethnological treatment had been on the same high level! To be sure, both, traditions and natural equipment, natural bent, have a strong influence here. But if the latter cannot be changed, the former can. Let us hope that the historical movement will make progress in England as it has in so many other countries. Then, English psychologists will enjoy the help of colleagues in the historical field, and at the same time historical ethnologists will have at their side such excellent psychological workers as Dr. Marett.

I feel sure that he will not take my criticism in bad part, if only because he has a sense of humor which does not leave him even when he is dealing with so serious a subject as religion. I must cite some examples of it in conclusion. He has a charming description of the dog's state of mind when, after stealing an appetizing chop from the larder, it has been caught and arrested *in flagrante crimine*.

His mien is doleful, his tail depressed. Yet, as regards his inward response to the distressing situation, which of the two are we to infer—sorrow for a commandment broken, or the fear of a prospective licking? . . . Now, a man is no dog. Though he may boast of belonging to the Wolf totem, the savage belongs to a higher order than that of the *Canidae* (pp. 146 sqq.).

It seems clear that Dr. Marett's conviction about the superiority of women in the oldest society is deep-rooted, since, while giving the mother credit for every good

quality, he does not hesitate to give us this amusing definition of the primitive father (p. 227):

A father in the social sense of the term may be defined as a domesticated human male. Whether his domestication was anterior to that of the other useful animals is uncertain, though it is perhaps more certain that it has never been complete.

And as a pleasant instance of the savage axiom "share and share alike," he cites Darwin's Fuegian friend Jimmy Button, who

tore all his European clothes to rags in order that his friends might participate in his finery, and offered up the decencies of civilization on the altar of a pre-sartorial morality (p. 233).

F. W. SCHMIDT

Die Gruppenheute, ein volkerkundliches Problem, RUDOLF GRAU. (Studien zur Völkerkunde vol. 5. Dissertation. 8°, 151 pp., map. Leipzig, 1931.)

Dr. Grau's pamphlet on group-marriage deserves an extensive criticism, not because of its importance or its weaknesses, but because it is almost a classic example of what ought not to be done—and what most of the writers of general papers do.

The paper starts with a few pages of commonplaces on method and aim pretentiously set forth. The next chapter deals with the definition of group-marriage as given by various authors, little distinction being made between field workers (like Howitt), scientists (Rivers), jurists (Post) and political agitators (Engels). And then Dr. Grau gives his own definition: it excludes polygyny, polyandry, horde-promiscuity and class-marriage. The participants of the same sex ought not to be a social group or a moiety. This definition is nonsense in itself. For the very fact of classificatory relationship gives all members of the same class identical social and familiar rights and standing. Therefore this definition, excluding class-marriage, or right to class marriage, excludes every chance to find such "group marriage" and can be invented only by someone who never saw or cannot imagine how a primitive society functions. Besides, this quarrel of who and how many make a group resembles a quarrel about the minimal number of buttons making a uniform. The *Leitmotive* of his arguments is that the non-interdiction of intercourse with a classificatory wife is not a right. That is mere play with words.

The chapter dealing with the history of the notion of group marriage is fairly good though it ignores many authors, mostly French, and shows lack of discrimination in the evaluation of authors. But, though often rough and ready, the exposé of other people's ideas is rather acceptable. Follows a research into the sources on which the assumption of group marriage is built. If some of the defenders of group marriage have dealt hastily with sources, interpreting to their own pleasure ambiguous facts, Dr. Grau matches them with similar behavior in favor of his criticism. He admits when dealing with the Gilyaks that he has not seen Sternberg's paper on which the information is based. So he discusses the commentaries of Maksimoff,

Engels, and Czaplicka. His explanations regarding a case of blood-brotherhood in Madagascar which he takes up on page 132 are somewhat beside the point.

In his conclusions he is more careful than in the essay proper, and his point of view is more objective. The sources are neither sufficient nor of equal value and one misses Dutch, Spanish, and many French authors. It is amazing to see how little attempt was made to see the connection between institutions and their cultural setting. The style leaves much to be desired in the way of simplicity and precision. On the whole there is much too much science and much too little anthropology. All this makes of it an average good essay on a general subject in Social Anthropology. *Sapienti sat.*

GEORGE DOBO

PHYSICAL ANTHROPOLOGY

Über einen neolithischen Schadel aus Arkadien. CARL M. FÜRST. (Lunds Universitetets Årsskrift, N. F., Avd. 2, Bd. 28, no. 13. 1932. 13 pp., 2 figs., 2 tbls. Kungl. Fysiografiska Sällskapets Handlingar. N.F., Bd. 43, no. 13).

Under the above title Furst has followed up his recent valuable study *Zur Anthropologie der prahistorischen Griechen in Argolis* (see Review in this journal XXXIII [3], 447-450, 1931) with a new contribution to Helladic anthropology. The skull studied here was recovered in 1928 from a grave at Hagiorgitica in Arcadia and reconstructed from a great number of fragments, it had rested there in association with the hopelessly fragmentary long and other bones of more than one skeleton. Prof. Carl W. Blegen of the American Archaeological School in Athens reports on Hagiorgitica and contemporary burials at the Argive Heraeum as follows (quoted by Furst, p. 3)

These graves are the first to come to light in Southern Greece that can definitely be assigned to the Neolithic Period. It is interesting to note that in both places we seem to be dealing with secondary rather than with primary interments, but the evidence is still too scanty to permit any general conclusions regarding the burial of the late Stone Age.

In addition to the Hagiorgitica skull a cranial fragment from Nemea was received comprising the parietal and occipital parts around the lambda. Suggesting an occipital protuberance, the fragment is remarkable for its thickness, which varies between 7-10 mm.

The Hagiorgitica skull itself appears to be of a delicate texture and is quite probably female. Its morphology down to the well-pronounced canine fossae and the protruding chin is of a recent kind, mixed however with several more primitive features like the high course of the temporal lines, an indication of the torsus occipitalis, the crista sagittalis¹ formation, facial prognathy of 79°, marked facial breadth, etc. The skull on account of its small breadth of only 127 mm. is dolichocranial at 67.9, the breadth likewise involved in the transverse parietofrontal index render-

¹ G. Sergi's "lophocephaly" for which, in accord with the usual terminological distinctions, the reviewer would substitute "lophocrany" in the case of the skull

ing the latter eurymetopic at 75.6. The rather pronounced height of 139 mm. gives rise to an ortho-, almost hypsicranial condition.

Among the fragmentary longbone material were parts of femora and tibiae upon which platymeric and platynemic conditions could be recognized.

The skull in question corresponds in type to one from Mycenae, also female, in the series referred to at the beginning of this review. The morphological evaluation of these specimens points towards a Nordic affinity and, in connection therewith, the nomadic habits of the ancient pastoral tribes of Thessaly and the Peloponnesos.

The carefully prepared monograph contains the photographic views of the Hagiorgitica skull in the five normae.

BRUNO OETTEKING

Maya-Spanish Crosses in Yucatan. GEORGE DEE WILLIAMS. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. XIII, no. 1, 256 pp., 47 pls. Cambridge, Massachusetts, 1931.)

The first attempts to solve the problems of race mixtures proved abortive. Embalmed in nineteenth century literature, they are now more objects of curiosity than of utility to the student of human crossing. During the first decade of the present century, the physical anthropologist either through inertia or as the better part of wisdom waited for the increasing perfection of the new genetic tools which were then being enthusiastically and excitingly forged. When, therefore, after a period of inactivity in race mixture investigations, *Die Rehobother Bastards* appeared in 1913, its author, Eugen Fischer, loomed forth as a pioneer in a sadly neglected field. This now classic book can not be said to have resolved the vexatious issues raised by human miscegenation; but it can claim to have clearly demonstrated that at last a methodology was at hand which offered some measure of assurance that progress could be achieved. Instead of being followed by a flood of imitative literature, this book remained alone; partly, I presume, as a consequence of the war. Even as recently as 1923 when I set out to visit the Norfolk Islanders, inspired by the opportunity envisioned in Fischer's monograph, there were still no other considerable studies on the genetic phenomena of group mixtures. Since then, however, there have been issued a short but highly significant series of such investigations. To this company Dr. Williams has made a notable contribution.

The population which has fallen to Dr. Williams to investigate has not offered him an opportunity to come to grips with the most significant aspects of race mixture. The Yucatecans, the subjects of his monograph, are a cross between Europeans mainly if not exclusively of Hispanic origin, and Maya Indians. The beginnings of this hybrid group are rooted in the sixteenth century, although its growth has undoubtedly been sustained in the succeeding period by continued mixtures. Under these circumstances, it is impossible to demand exact genealogical records, if perchance they meant anything refracted through a glass four hundred years thick. Equally obvious the conventional experimental set-up, consisting of pure parental groups, an F1 generation, an F2 generation, and the backcrosses, were necessarily

lacking. But if Dr. Williams could find no crosses in the making, he had a population which presented itself as a *fait accompli*, and he has attempted to analyze its characteristics and to determine what may be the fate of a miscegenation between two distinct stocks.

Using an empiric method sometimes employed by physical anthropologists, Dr. Williams divided his sample into five groups, selected on the basis of five non-adaptive traits. Of these classes, the first two, A and B, approached the Maya in their group characteristics while the last two, D and E were least like the Maya, and most like the Whites. The middle group, C, represented the residuum. The greater part of the monograph is concerned with an inter-group comparison trait by trait for a long and full list of anthropometric measurements and observations. The demonstration is convincing that these groups represent real subdivisions of the general Yucatan population, for in a large number of characters, uncorrelated with those which were used as a basis for the original five-fold division, there are significant differences between the various groups. These differences, moreover, frequently show a progressive increase or decrease from A to E. This linkage between traits which permit the original parental combinations to segregate themselves out would be extremely difficult to evaluate genetically in the absence of essential data, and Dr. Williams has wisely, though with reluctance I imagine, declined to attempt it.

The heterosis which may frequently characterize a mixed population and which I found among the Norfolk Island descendants of the Mutineers of the *Bounty* is absent here. Dr. Williams is inclined to regard this absence of heterosis as a result of long inbreeding. In a reduced variability, too, the Yucatecans give evidence that inbreeding has taken place.

In addition to an anthropometric schedule, Dr. Williams has completed the picture of his population by taking a series of blood-groupings, basal metabolisms, and vital records. An analysis of marriage records indicates that the crystallization of the five segregated groups is strengthened by preferential mating. In all these data, as well as in the physical measurements and observations, there are clear-cut differences between the various groups. The final conclusion, therefore, that true-breeding subtypes are discernible in the mixed Yucatecan population is amply borne out by the impressive mass of carefully presented material.

H. L. SHAPIRO

PRIMITIVE MUSIC

Folk Culture on St. Helena Island. GUY B. JOHNSON. (183 pages, musical illustrations. \$3.00. Chapel Hill, N.C.: The University of North Carolina Press, 1930.)

This study is both delightful reading and sound methodology. The author discusses, not the entire folk culture, a term which in this application is somewhat misleading, but the peculiar dialect, the folk songs (more especially the spirituals), and their melody, presenting in conclusion a collection of typical tales, riddles, and superstitions of the Gullah living on St. Helena. The work was undertaken at least partly with a view to ascertaining on what grounds generalizations might be made

concerning African influences in American Negro dialects and songs. Since the island of St. Helena is isolated, off the coast of South Carolina, and the people less subjected to white contact than the majority of negro communities, it was felt that there, if anywhere, such influences might be detected.

The book is divided into three parts, the first devoted to the Gullah dialect, the second to the songs, the third to the remaining phases of folk lore, i.e., tales, riddles, proverbs, toasts, rhymes, games and superstitions, and concludes with a good bibliography. In this last, however, the author overlooks entirely the contributions of Dr. Martha Warren Beckwith regarding Jamaica, not only numerous but important. The fact that many of these papers have been published somewhat obscurely in the Vassar College Folklore Foundation series does not entirely account for the omission, for others appear as memoirs and papers in the American Folklore Society series to which the author has referred for material, and where cross references to the Vassar series must almost certainly have appeared, while he quotes a number of works on Jamaica.

In the first part of the book he takes up the question of language heritage, apparently making an excellent case for his contention that Gullah words are almost exclusively to be traced to seventeenth and eighteenth century Midland and South-west folk-English, from which parts of England came the great majority of our Carolina planters. The minute care with which this part of the subject is treated, the great amount of research involved, are obvious, and the results seem to furnish ample justification. Moreover the author must have had a very good time, on the way, elucidating the quaint expressions, the crudities of the Midland and South English planter which his descendants have so complacently and naively attributed to the Negro.

The author goes further and convincingly reveals that not only vocabulary, but pronunciation, phonology, and grammar are typical mid-southern English of the period, therefore leaving little room for any but his conclusion that at least Gullah, far from being a negro dialect, is a pure survival with few exceptions, of the language spoken by the masters, that the slaves were apt pupils and excellent imitators, and preserved little of their original language, except occasional words. These were far more often perpetuated by the whites, who adopted them as convenient handles and current expressions for objects unfamiliar in their homeland. This condition was partly due to the fact that the slaves were drawn from different linguistic groups, to a large extent mutually unintelligible, and that to comprehend one another it was easier to adopt the language of the master, which had to be learned, anyway, than to perpetuate various African tongues. But it was also partly due to the fact that objects designated by African terms were generally either African in derivation or similar to ones in Africa.

Oddly enough the author stops there, without investigating more than casually the sentence structure and psychology of the language. Here, if anywhere, he would be most likely to find African traces, and might have to modify his conclusions as to the almost complete lack of African influence in Gullah, or (by inference, for less "pure" negro culture) in other negro dialects in America.

In the second part of the book he discusses chiefly the spirituals as the most typical negro musical output according to prevailing opinion, in which he seems to concur without much question. He states that secular songs are conspicuous for their scarcity.¹ He proves, quite to his own and I think, the reader's satisfaction, that the great majority of spirituals are adapted white hymn tunes of revival provenience and often not even subtly disguised. A minute study of scales, intervals and harmonies leads to no conspicuous differences between white people's hymns of the revival or even more dignified sort and the spirituals. Composition structure is not sufficiently different to be noteworthy. Even antiphonal singing was evidently not confined to Africans but common in illiterate English groups. He admits the possibility that spirituals are of negro inspiration and that some revival hymns might have been borrowed from negro spiritual sources, as well as the opposite having occurred, but thinks, apparently with justification, that the latter instances were few. The book is full of interesting tables, and musical examples which must have cost the author an immense amount of work to compile and seem to be worth the work in results. The one point he concedes to be due to negro genius is that of rhythm, particularly syncopated rhythm.

The third section of the book, on folklore, discovers more apparently African traits, and material that traces back to all parts of the world. Stories with sung portions still survive, but this, of course, is not a purely African trait, being quite common in American Indian folklore as well. The rabbit as trickster hero is African, and many stories about him are presumably little changed from versions in Africa. The riddles, of which there are an amazing number, are apparently mostly European, but many have African earmarks. Some rhymes, toasts and games are very old English; there is little African influence there.

Altogether this is a delightful, scholarly book—one which students of folk music, folklore, and language in general, and Afro-American in particular should not fail to read.

HELEN H. ROBERTS

Menominee Music. FRANCES DENSMORE. (Smithsonian Institution, Bureau of American Ethnology, Bul. 102, pp. i-230, with music, tables and illustrations, Washington, D.C., 1932)

Yuman and Yaqui Music. FRANCES DENSMORE. (Smithsonian Institution, Bureau of American Ethnology, Bul. 110, pp. i-216, with music, tables and illustrations, Washington, D.C., 1932)

In both of these volumes Miss Densmore has again presented not only the actual music of Indian tribes as she has recorded it and transcribed it into notation, of 140 songs in the first case and 130 in the second, but a great deal of ethnological

¹ In Jamaica they are innumerable, but in bad repute in highly religious communities and have to be sought from so-called "sinners" and other independent characters. Not only are these songs frequently the Negro's own melodically, but in ideas, although naturally a goodly number are popular airs borrowed from the whites and made over to suit the occasion.

and historical material together with numerous photographs. The treatment and form of presentation of the material in each book is practically identical, if order in some few instances and some additions in the Yuman and Yaqui book be excepted.

After a discussion of the tribes, their history, habitat, customs, musical instruments, and so on, there are tabulated comparisons of the material under discussion with that of other groups Miss Densmore has previously studied, followed by the songs themselves, a few remarks upon each, descriptions of the ceremonies in which they occur or similar settings, concluded by tabulations of her analyses ranged according to the serial numbers of the songs, and authorities cited.

The tabulated comparisons are between the songs with which the present studies deal, on the one hand, in contradistinction on the other to the songs of all the other groups previously studied lumped together, regardless of their possible tribal individualities. There has been no attempt to compare them separately, and in the Yuman and Yaqui study, the Menominee songs are thrown with the others, in the balance against them. These tabulations are based on the author's customary categories of *tonality* (major, minor and irregular), *the relation of the first and last notes of the song to the keynote* (mode of ascertaining the keynote not given), *the relation of the final note to the compass of the song*, *the actual number of tones used in each song*, *the nature of the tonal material*, *the presence of accidentals*, *the structure* (melodic, harmonic or irregular according as the notes of the song appear to conform to no recognizable harmonic outline, or to the outlines of chords in successive notes, or to combine both qualities), *the direction of the first progression* (ascending or descending interval), *change of time*, and *rhythmic units* (presence of one or more).

The Yuman and Yaqui collection adds to these a tabulation of *the total number of upward and downward progressions* (counted intervals, not for each song but for all the songs taken together) *the types of intervals appearing in downward and upward progression*, *the average number of semitones to the interval* (actually the average sized interval, ascertained by pooling intervals of all sizes and arriving at a quite mythical one), *the part of the measure on which the song begins*, and *the rhythm of the first measure* (evidently taken to be synonymous with meter, which it is not, in strict musical terminology).

These tabulations have required a tremendous amount of labor to compile. The important points for music and for the psychology of the aesthetics of each group, so far as music is concerned, can, however, only be made really clear by an appeal to the music itself, or to discussions supplemented by illustrations in notation from it, or by graphs, curves and formulae which represent them.

Many tabulations should be carefully weighed for their ultimate returns in characterizing this music from the point of view of style, rather than for being simple lists of isolated features regardless of their concomitant controlling factors. Some could profitably be dispensed with, while the results of others need evaluation and supplementary discussion, for Miss Densmore allows her tables to speak for themselves without attempting to summarize her results into characterizations of types of songs marked by combinations of certain features at the expense of others. It is odd that, in view of her minute tonal analyses from so many points of view,

she has not classified the various tonal groups to see if they may perchance coincide with songs having different functions.

The author offers no study or discussion of composition structure and design, a feature of even primitive music which is coming more and more to be recognized as of quite as great, if not greater, importance as the tonal material or even the rhythmic and metric patterns. In her comparisons between the musics under discussion in these volumes and those which she has previously studied, she has given a few generalizations, particularly with the idea of contrasting the Indian musics with that of European tradition.

There are many points of debatable methodology in the treatment of the music in these books, too numerous to discuss here, but the fact remains that Miss Densmore has made two more additions to her already large contributions of musical notation of American Indian songs, together with masses of data which will be of interest to ethnologists.

HELEN H. ROBERTS

A Study on Pagan Music. J. KUNST. (Indisch Comité voor Wetenschappelijke Onderzoekingen. Batavia, Java, V, 97 pp., music, illustrations, map. Weltevreden, D. E. I., 1931.)

This monograph is an account of some thirteen little tunes collected on phonograph records by Mr. C. C. L. M. LeRoux on an expedition to the Central Mountains of New Guinea (Nassau Range) in the Netherlands East Indies in 1926, which were transcribed and studied by the author. As he says, the material is too fragmentary from which to draw any very definite conclusions but he thinks from the various types of tunes (quite different) and from published accounts of music in these regions by other authors, that there is fair evidence of musical stratification due to mixtures and superposing of cultures, and that further collections will not only make this point clear, but that lines of diffusion may possibly be mapped.

By far the most valuable part of the work consists in a very carefully compiled list of musical instruments, based on Curt Sachs' classification, with reference to the cultural strata which he has elaborated, some splendid drawings of instruments, a good bibliography, and an excellent map of New Guinea and adjacent islands on which are superposed in colors appropriate signs for the various instruments at the points where they occur. This last is a most valuable contribution for which all musicologists will thank Dr. Kunst.

HELEN H. ROBERTS

AMERICA

Archaeological Atlas of Michigan. WILBERT B. HINSDALE. (Michigan Handbook Series no. 4, 40 pp., 21 figs., 20 maps, \$6.00. Univ. of Mich., Ann Arbor, 1931.)
Distribution of the Aboriginal Population of Michigan. W. B. HINSDALE. (Occasional

Contribs. from the Mus. of Anthropol. of the Univ. of Michigan No. 2, 1932. 35 pp.; 2 maps, 1 colored.)

Michigan is to be congratulated on having joined Ohio and New York in a detailed record of its aboriginal sites, and to have had this undertaking entrusted to a veteran like Hinsdale. The large folio Atlas reviews trails, waterways and portages, mounds and earthworks, villages and campsites, burial grounds and garden beds, and mining, as well as noting the archaeological features of separate counties. The smaller work reviews the distribution of the aboriginal population with reference to environment, sources of food, and concentration. It makes clear that the density of population was almost directly proportional to the amount of maize grown in Michigan today by Caucasians. A secondary center lay along the two great inter-lake straits in the north. The northern copper-bearing shores were of course frequently visited, but little inhabited. The data assembled could have been accumulated only through years of labor. They are presented at once compactly and painstakingly, and so far as an outsider can judge appear accurate. If any fault is to be found with the presentation it is on the score of the arrangement of data on the basis of counties. This is, of course, as a rule most convenient for the local citizen on whose cooperation the building up of a survey like this necessarily depends; though the outsider would naturally prefer a classification in terms of drainage or other natural areas. This, however, is a venial and perhaps debatable point in a piece of work of which the University of Michigan and the state may well be proud, and for which archaeologists elsewhere will be grateful.

A. L. KROEBER

Sitting Bull; Champion of the Sioux. A Biography. STANLEY VESTAL. (350 pp., index. \$3.50. Houghton Mifflin Company, Boston, 1932.)

Dr. William Campbell (Stanley Vestal) has produced a very able and conscientious biography of the great Sioux chief. The book makes the ethnologist realize how much of the "subtle escapable" in a culture can be captured in biographies of its representative men. The author's enthusiasm for his Indian hero, however, has blinded him to certain historical and ethnographical facts.

From the viewpoint of history, for instance, the writer has over-emphasized the part played by the Hunkpapa and Sitting Bull in the westward movement. This expansion was concomitant with a general westward push on the part of the Teton which had its inception about 1785, when these tribes, after crossing the Missouri, acquired horses. The movement was accelerated from 1850 on by the increasing diminution of the buffalo herds, suffered by all the Teton tribes, of which the Hunkpapa was but a small one. Again, the writer refers to the activities of Red Cloud's war of 1866 and '67 as "skirmishes," saying that Red Cloud's power was spent, in that he was about to sign a treaty. This very war of the Oglala Teton chief caused the United States, in the treaty of 1868, to comply with all his stipulations. It is the only treaty on record in which our government acceded to every demand

made by the enemy. Also, in his enthusiasm for Sitting Bull, the author does scant justice to the names of many fine and able Teton leaders who deserve much credit for the guidance of their people in a period of great stress—men who, unlike the Hunkpapa chief, foresaw the inevitable and counseled accordingly.

To the ethnologist much of the value of the book has been lost by not throwing Sitting Bull more clearly against the background of administrative patterns in his own culture, most especially, since he is a splendid example of the Great Man in a Crisis. According to the author's own data Sitting Bull evidently re-spun certain Sioux patterns to meet his own uses. This is not made clear owing to the author's confusion about the political organization of the Hunkpapa. He greatly over-emphasizes the power of the chieftaincy, and is mistaken in thinking that there were both war and civil chiefs. He does not mention at all the true seat of government in the camp circle, the wakitcunsa, nor Sitting Bull's relation to these men, and how it differed from that of other chiefs. The true nature of the akitcita or camp police is not definitely stated, nor is the relation of that body to the akitcita societies clearly defined. This is important, not only for the understanding of the early tribal positions held by Sitting Bull, but also for a clear conception of that corps, "Sitting Bull's Soldiers."

To one unfamiliar with Teton-Sioux ethnography some of the writer's descriptions and statements would be misleading. For instance, he almost apologizes for Sitting Bull's lack of wealth. This is unnecessary since a good chief was expected to be the poorest of his people, a sign that he had given away everything in their interests. In this connection it should be mentioned that Vestal failed sufficiently to emphasize the strong competition in the giving away of property. This, too, had its counts for honor and was second only to the war count. Both were important for tribal leadership, and the writer himself mentions great chiefs who had few or no war counts. The Sioux had other prime values in life besides the martial.

Again, Mr. Vestal says that the chief had a good singing voice, describing it as "deep, resonant, melodious," whereas a good Sioux singing voice is supposed to be shrill, and clear. The writer accidentally gave the criteria for our own vocal music. He mentions that Sitting Bull's family had always taken care never to thwart him or break his spirit. This was common practise with all Sioux parents. No other occurred to them. These may be trivial points, but they prevent a satisfactory analysis of the motivations of a figure educated in an alien culture.

Biographies of this kind should be encouraged, and as time goes on they will contribute much to ethnology. The book was especially interesting to this reviewer since he had just been working among the few remaining families of Sitting Bull's group at Wood Mountain, Saskatchewan.

H. SCUDDER MEKEEL

Die Verwandtschaftsorganisation der Urwaldstämme Südamerikas. PAUL KIRCHHOFF.
(*Zeitschrift für Ethnologie*, 63: 85-193, 1931.)

With this, his first, publication Dr. Kirchhoff at once takes rank among the foremost living students of social organization. Limiting himself to the horticultural

tribes of the Amazon area and the Tupi of the Brazilian littoral, he summarizes the source material in a truly masterly fashion. Amazingly enough, it is the older writers that, on the whole, furnish the best data on social structure, while modern "trained" anthropologists are notoriously deficient. Kirchhoff dispels the erroneous notion that the Makusi are organized into matrilineal exogamous clans by simply citing the occurrence of marriages with the sister's daughter (p. 108). In the area discussed, matrilineal clans occur among the coastal Arawak ("Lokono"), while patrilineal clans are found among the Witoto (pp. 147 f., 175). The inheritance of group names—a fact not previously known to me—undoubtedly warrants the author in substituting for my notion of a nascent sib organization that of a full-fledged system of this type. Apart from these cases, the unit of social structure in the region is the "extended family" (*Grossfamilie*), a group of co-resident kin plus the connections by marriage living with them (pp. 88f., 190). In most of Guiana and the Lesser Antilles residence is matrilineal, but with the chief and his successor the rule is reversed. In Brazilian Guiana and North-western Brazil residence is patrilineal, but here it is sometimes the heir-apparent who comes to live with the parents-in-law. In general, especially in correlation with matrilinealism, there is bride-service. Indeed, the Rukuyenn, a Carib tribe of Guiana, and their congeners on the Orinoco have evolved a system in which the son-in-law is a veritable dependent (p. 126 f.). Such serfdom is, however, mitigated among the coastal Tupi if the husband marries a daughter to one of his brothers-in-law (p. 183).

... dadurch ist der Zusammenhang zwischen der Sitte des Dienens um die Frau und der Sitte der Heirat mit der Tochter der Schwester gegeben (p. 190).

Various other forms of preferential unions are brought to light, such as sororate and levirate, cross-cousin marriage, marriage with a step-daughter (p. 130).

Kirchhoff's saturation with the material, the independence of judgment shown in the face of "authorities," the trenchant definition of terms, and the determined attempt to visualize social custom in all possible concreteness give to the paper classical quality.

ROBERT H. LOWIE

Les hommes-dieux chez les Chiriguano et dans l'Amérique du Sud. A. MÉTRAUX
(Revista del Instituto de Etnología de la Universidad Nacional de Tucumán, 2.
61-91, 1931.)

In 1929 Dr. Métraux discovered in the possession of the Franciscan College of Tarija a manuscript dating back to 1795 and giving an account of the Messianic uprisings of the Chiriguano Indians in 1778 and 1779. He here communicates the relevant passages (pp. 81-85). An itinerant Chiriguano prophet, preaching in the vernacular as well as in Spanish, pretended to have the power of causing a shower of fire, of transforming men into stones, of destroying towns, livestock, and unbelievers. A woman accompanying him was said to be the Holy Virgin. The Messiah had a large following, and the Indians of the mission of Abapó, hearing of his gospel,

in wild excitement flocked towards Mazabí, the centre of the cult. Though an armed force drove him to seek safety in flight, either he or a successor (*el mismo Dios fingido u otro, en su lugar*), again threatened the peace of the mission with a band of Indian warriors, but dissension among the natives led to a second failure.

Dr. Métraux supplements this report by a brief account of the Chiriguano uprising of 1892. The rebels were led by a young man bearing the title of *Tunpa*, God, who remained shut up in a hut hung with red cloth and might only be addressed through intermediaries, all who came before him knelt down. The author was still able to glean some aboriginal statements on this last prophet.

Les Aïa (Chiriguano) attaquaient et volaient les muletiers. Le *Tunpa* leur assurait que les fusils des *Kirari* allaient cracher de l'eau et qu'eux, avec leurs fleches, allaient pouvoir les exterminer (p. 86).

Dr. Métraux avails himself of this opportunity to assemble parallel phenomena from other South American tribes. Of the twenty post-Columbian Tupi-Guaraní migrations, he tells us, four were certainly, and two probably, stimulated by the quest of an earthly paradise under the guidance of medicine-men, who laid claim to divine powers. In the author's opinion, these were themselves dominated by mythological tradition, the myth being for the man god what the text of a play is for the actor playing it (p. 73). Outstanding among the Guaraní movements was that headed by Oberá, who was defeated in 1579. He had been baptized, and his gospel is a blend of aboriginal and Christian ideas. Thus, he declared himself the only son of God the Father, borne of an immaculate virgin, but also preached constant dancing and singing to the neglect of sowing and harvesting (p. 76 sq.). The author reminds us of comparable facts recorded for the Amazonians by Koch-Grünberg and of the divine rulers in the higher South American cultures (pp. 87-89).

Though full reports on the personality of the Indian Messiahs are lacking, Dr. Métraux's summary is of the utmost interest and invites comparison with North American and South African data.

ROBERT H. LOWIE

Indian Tribes of the Argentine and Bolivian Chaco. RAFAEL KARSTEN. (Societas Scientiarum Fennica. Commentationes Humanarum Litterarum. Vol. 4, no. 1, 236 pp., map. Helsingfors: Centraltryckeriet, 1932.)

In the present study Dr. Karsten presents the results of his work among the Chaco tribes (chiefly the Tobo) in the years 1911-1913. The aim of the expedition was to supplement Nordenskiöld's earlier work in the same region and to make detailed studies of social life and religion. Neglect of the non-material side of South American culture is one of the chief sins laid at the door of ethnographers who have worked in that area. Dr. Karsten's monograph should induce a measure of forgiveness, though its shortcomings will be rather apparent when measured by the standard of field methods and descriptive accounts of the present.

The professional reader will no doubt wish that the author had more carefully separated fact and interpretation. Thus, the statement that

these facial paintings, like all Indian body-paintings, have a purely magical significance (p. 149)

is made rather ridiculous by the observation that

If one asks a Toba girl why she paints her face, she will in most cases simply give the answer that it is considered beautiful (p. 183).

One might likewise question the validity of such remarks as that "Lar tubes" are likewise nothing but magical charms" (p. 187), that if the Mataco-Noctenis "have any mythology it is very poor" (p. 206), and that the drums, rattle gourds, whistles "have a purely magical significance" (p. 31). "Maternal descent" (p. 49) turns out to be little more than matrilocal residence, the children rather naturally becoming associated with the mother's village and tribe.

Karsten's interests and methods of approach are fundamentally different from Nordenskiöld's. The latter was interested primarily in the history of traits, in cultural origins. He would have been intrigued by these new data bearing on the distribution of such far-flung traits as scalping (p. 29), the full-fledged couvade (p. 71), masks (p. 86), the individual guardian spirit (p. 131), taboo on the name of the dead (p. 199), the woman's chin tattoo (p. 181), the "devouring" theory of eclipses (p. 118), and the snaring of the sun as a myth element (p. 215). Karsten gives over the bulk of his essay to religion, society, and social psychology. But a difference in viewpoint is hardly ground for placing another in the category of "ethnographic travellers," reserving the phrase "great expedition" for one's own endeavors.

In spite of its faults of omission and commission the student of things South American will be grateful for a reasonably full account of the manner of life, the religious beliefs, shamanistic practices, the social scheme, and the cycle of existence among the Chaco Indians.

RONALD L. OLSON

Archaeological Investigations in the South on Cayo District, British Honduras. J.

ERIC THOMPSON. (Field Museum of Natural History, Anthropological Series, vol. XVII, no. 3. 145 pp., 28 pls., 21 text figs. Chicago, 1931.)

In recent years archaeological investigation of the ancient Maya civilization has entered a new phase. In times past, students have devoted their energies chiefly to the discovery of forgotten cities and to the study of sculptures, inscriptions, and still standing architectural remains. Hence, in due course, many hundreds of ruins have been recorded and described in more or less detail. This was a necessary step towards the elucidation of Maya civilization, yet it has always been clear that to arrive at detailed and final conclusions it would also be necessary to undertake a long series of excavations at key sites. This realization perhaps was fostered by the fact that many students in the Maya field had also worked in the southwestern

United States where they had seen the successful application of stratigraphic methods of excavation to the much simpler archaeological problems of that region.

The work under review is an excellent exposition of methods currently used in the Maya area and of the type of results to be expected from them. It is based on the study of two ceremonial centers (Hatzcap Ceel and Cahal Pichik) and two residential areas (Tzim'n Kax and Cahal Cunil), all located near Mountain Cow Water Hole in the southern Cayo district of British Honduras. The author describes architectural features of these sites as well as carved altars and stelae. Dates on two altars are deciphered as 919,000 and 100,5,0,0 (835 A.D.). Excavations brought to light a number of ceremonial caches and burials accompanied by minor artifacts of stone, shell and pottery. The stratigraphic and chronological relationship of these objects to each other and to similar finds from other ruins is fully discussed. There are five appendices dealing with the "in-and-out" style of masonry at Lubaantun, a newly found stela at Copan, two dates on the hieroglyphic stairway at Copan, the origin of the 260-day almanac (toralam tl), and the initial series date at Holactun. In addition, the book contains bibliography and index. The text is illustrated by 28 plates and 21 text figures, which give a most adequate idea of the discoveries.

Current ideas on ceramic development in the Peten and adjacent regions have been based on pottery found by Dr. E. R. Merwin at Holmul, now in the Peabody Museum of Harvard University, and on the interpretation of this collection by Dr. G. C. Vaillant. Thompson ascribes the pottery of the Mountain Cow region in part to a pre-Holmul epoch and also to the periods known as Holmul I and Holmul V. The last two of these three ceramic groups were separated stratigraphically, thereby confirming the Merwin-Vaillant sequence.

The pottery named pre-Holmul by the author was not discovered under conditions indicating relative age, yet it is known to be older than typical Mayan handiwork because it has been found buried beneath Maya remains at Cerro Zapote in Salvador and at Uaxactun in the Peten. Thompson notes the presence of this ware in the Uloa valley of Honduras. The reviewer has seen examples from Copan in Honduras, from several sites in the highlands of Guatemala and from others in eastern Salvador. Discovery of this ware at Mountain Cow suggests an early settlement in that region either by a non-Maya population or by Maya who as yet had not developed the art regarded as typical of that people.

Pottery of Holmul V style, according to the Merwin-Vaillant interpretation, represents the last ceramic phase in the Peten before the breaking up of Maya Old Empire culture. Thompson correlates Holmul V with the two dated altars he had discovered, and concludes that in general this ceramic period coincided with the last quarter of Cycle 9 and the early part of Cycle 10—approximately 765–865 A.D., according to his correlation of Mayan and Christian dates. At the same time, he notes that the Mountain Cow district is peripheral and that styles may have lingered in that region after their abandonment in the greater cities of the Peten.

In brief, Thompson has brought to light much material from a hitherto unknown portion of the Maya area, and has interpreted it ably in relation to present-

day field methods and ideas. Every publication of this type marks a forward step in our knowledge of the ancient Maya world.

S. K. LOTHROP

AFRICA

Biene und Honig im Volksleben der Afrikaner mit besonderer Berücksichtigung der Bienenzucht, ihrer Entstehung und Verbreitung. CARL SEYFFERT. (209 pp., 15 figs., 4 maps. Leipzig: R. Voigtlanders Verlag, 1930.)

This is a valuable compilation of the data on bee culture and the use of honey in Africa. How far the bee may be considered a domesticated animal before it is fed, protected, and selectively bred is a matter of definition. In the sense mentioned, no part of Africa has domesticated the bee. Over most of the continent, however, bees are induced to hive in prepared receptacles. The distribution of the types of receptacles—hollow logs, cylinders of bark, pottery vessels, baskets with or without dung coating, masonry chambers, etc.—is somewhat intricate but shows fairly consistent regional trends. The same may be said of the use of honey, which is sometimes drunk fresh in water dilution, sometimes fermented, and sometimes added to fermented liquors. The West African tropical rainforest area is the only one that does not make much use of honey. Presumably bees do not thrive in it. The parkland, savanna, steppe, and semi-desert regions all raise bees, except for a southeastern region. The author's interpretation is concerned largely with the transmission of bee culture to Africa through the Hamites from an original Indo-Germanic *Aristaeos*-pastoral culture. However one may react toward such semi-historical speculation, there is no doubt that Seyffert has brought together a collection and mass of material of value for general culture history.

A. L. KROEBER

Tales Told in Togoland. A. W. CARDINALL. \$5. Oxford University Press, 1931.

One expects a great deal from an author who possesses such an intimate knowledge of the Gold Coast as does Mr. Cardinall. His previous publications, moreover, have not belied his experience. We are the more disappointed, therefore, that the volume under review does not come fully up to expectations. Its value cannot be denied, from the point of view both of history and of mythology it is a source book to which future writers will be inevitably indebted, it contains information which must remain as unique as the experience which enabled the author to collect it, it argues an intimacy and a familiarity with the language without which any such collection would have been impossible. But, when one has said this, one has said everything, and from many points of view the book falls far short of the standard one might be justified in assuming.

In the first place, it is a very difficult book to read. The idiom is unexpected and belongs more properly to the genre of historical romances or the novels of Jeffery Farnol—as witness the table of contents: "Of the Origin of Things," "Which chiefly concerns the Sons of God," "Which chiefly deals with Friendship, True and False," "Where Men learn Consolation in Adversity and are warned against

Women." This is really too (one might almost say, too, too) precious, and might easily prejudice a reader against the book. If it were confined to the Contents, it would pass as a curious foible, but unfortunately it permeates the whole book and one finds sentences such as "Not much do I write about the second, however," and other such irritating inversions. It takes a great deal of determination to work through this kind of thing, and the fact that one finds it worth while is perhaps the best testimony to the value of the material which the book contains.

It is difficult, also, because one is never quite sure where a legend ends and its commentary starts. The two are inextricably confused, and one thing leads to another in just such a desultory way as the conversation in a smoking room. Anyone wishing to get the best value out of the book should obtain two copies and cut them to pieces. Once properly sorted out and organized the material should prove invaluable, but as it stands it asks too much of the reader's patience.

The introductory chapter gives Mr. Cardinal's credentials and some of the methods which he adopted in putting the book together. He frankly admits that his work is incomplete, and we agree with the value of such a record of folk-lore as this is, "picked up at haphazard from the peoples themselves." "I have taken special care," he adds, "to have recorded the views of the people, the peasantry, hunters, and villagers. Chiefs and priests possibly have other views. I know not." It is quite irrelevant to say, as the author does, that the religion of an English peasant is likely to be of more value anthropologically than that of an archbishop. While it is admirable that the peasant and the hunter, whose testimony is so often neglected, should be given an opportunity of stating their case, Mr. Cardinal's method is no less lopsided than that normally adopted. It gives a picture which may not be false, but it is certainly not true, and it is particularly partial when throughout the greater part of the territories concerned the rulers are not of the same stock as the people. Here an examination of all the available sources might have revealed differences in mentality or culture which would have found expression in variations of legend or mythology. In any case such an opportunity of comparative study was too good to have been missed.

It would take too long to draw attention to the many points of great importance which the tales reveal, but we may mention the interesting fact that where the Moshi and Grunshi groups speak of 'chief,' the Twi group substitute a word translated 'god,' an interesting commentary on Frazer's theory of the divinity of kings. Interesting, too, is the fact that a hunter has to be careful to obtain just the right kind of bullets for the species of animal which he proposes to hunt. A bullet destined for buffalo would be useless for bushbuck, and so on, a magical differentiation which is doubtless as potent as the more ponderable differences which we attribute to grains of cordite. The moral is that even when new weapons and implements are accepted into a culture they tend to come within the orbit of old magical beliefs, and just as every activity had in the past its specific magic, so the new invention has also to be subjected to a similar treatment, if it is to be efficacious--an important point for those who are interested in problems of contact.

J. H. DRIBERG

The Excavations of the Egyptian University in the Neolithic Site at Maadi (First Preliminary Report, 1930-31, OSWALD MENGHIN AND MUSTAFA AMER (Publication no. 19, 65 pp., 78 pls., Cairo, 1932.)

Of all the known prehistoric sites in the neighborhood of Cairo, the two most important are El-Omari, partially excavated by Père Paul Bovier-Lapierre, and Maadi. In the preparation of their report on Maadi, Menghin and Amer were assisted by K. Bittel, who described the stationary finds. All the evidence goes to show that the region had a greater rainfall in Neolithic times than it has at present. The large quantities of corn found during the excavations justify this conclusion. Maadi was a camp; thus far no cemetery has been found in connection with it.

The character of the relic-bearing deposit and of its contents is such as to indicate a long uninterrupted period of habitation. The criteria used to prove that Maadi is of a later date than Beni-Salame are, for Maadi: (1) the intensive use of copper, (2) highly differentiated character of the pottery, and (3) complete lack of stone axes. Maadi is classed as late Neolithic—about 3,000 B.C.

Although there is much digging still to be done at Maadi, valuable evidence has already been gained concerning the vast changes in the culture of Lower Egypt since the Merimde period (4,000 B.C., and more), as represented by the Beni-Salame and Fayum discoveries. Sufficient evidence has been gleaned to prove the Maadian to be a well defined group within the neolithic evolution of the Nile valley.

GEORGE GRANT MACCUBDY

ASIA AND OCEANIA

Ethnology of Tongareva, TE RANGI HIROA (P. H. BUCK), (Bernice P. Bishop, Museum Bulletin 92, gr. 8, IV, 225 pp., Honolulu, 1932.)

One criticises good books in the egoistic hope that one's favorite author's next book shall be still better. And indeed, since Mr. Te Rangi Hiroa's books are such valuable and welcome contributions to the library of Polynesian scholars, a well-intentioned criticism is almost a homage to the author.

The title of the book is somewhat ambitious. *Material Culture, with Notes on Social Anthropology*, would be more correct. The notes on social anthropology are somewhat disordinate, and the sequence of chapters seems not easily justifiable. No chapter on social life is a really complete account. But the data supplied are both living and reliable. It is but seldom that he indulges in obvious inferences (e.g., page 92, line 12 ff.). But his inferences are easily recognizable as such, and therefore his account may safely be used by some more methodical sociologist for a Social Life of Tongareva. His use of the word "incantation" is rather free and somewhat objectionable. Among the chapters in the first part of his book we immediately note his brilliant demonstration on *ʔ* and *ʔ* and some other sounds. His account of tradition and history is more interesting from the point of view of how the natives react to it than as historical sources, as Te Rangi Hiroa regards them.

Material culture begins on page 93. Trying to pick out the best chapters on this subject is an *embarras de richesse*. My fancy goes to the chapter on cooking and

food (especially coconut), since it contains many incidents of native life connected therewith, as well as texts. Among other chapters the one on plaiting and basketry, also the one on Maraes are the best, while the ones on clothing and weapons are the weakest, which means that they are only very good instead of excellent. A profusion of native terms gives this part of the book a genuine value, while several well-chosen and wittily described incidents show the practical use of things. One misses, however, folklore as well as juridic and social regulations connected with material culture.

The chapter on the calendar is of real interest.

Throughout the book a fairly great number of comparisons have been carefully traced. Mr. Te Rangi Hiroa knows how to use texts and authors critically, which is a most commendable quality. His bibliography is good. To those acquainted with the publications of the Bishop Museum and with the author of this monograph the high quality of this work will be no surprise.

GEORGE DOBO

The Transactions of the Asiatic Society of Japan, Second Series, vol. VIII. (HUGH BYAS, M.B.E., editor. 168 pp., illustrations. Tōkyō: Asiatic Society of Japan, December, 1931.)

The new volume of these Transactions contains:

Some Notes on Japanese Tree Worship	D. C. Holtom
Writings on Martyrdom in Kirishitan Literature	Masaharu Anesaki
Notes on Early European Military Influence in Japan	C. R. Boxer
The Noro, or Priestesses of Loo Choo	Robert Steward Spencer
The Naot Matsuri	Genchi Kato
(Translated by D. C. Holtom)	
Daigo Tennō to Sono Issennen Go-onki	Naokata Nakamura
(Translated and Annotated by J. B. Snellen)	

Three of these papers, primarily for historians, are incidentally of anthropological interest. Dr. Anesaki adds to his valuable translations of source documents for the history of Catholic Christianity in medieval Japan, Mr. Boxer recounts the introduction of European weapons and military techniques in the 16th and 17th centuries, and Professor Nakamura's paper on the Emperor Daigo (originally published in *Transactions of the Meiji Japan Society*, XXXIV) affords access to source material, interesting in view of the current celebration of the one-thousandth anniversary of the death of that ruler. Incidentally, Mr. Snellen's translation and annotation provide an excellent model of bilingual citation of Japanese sources, with thoroughly satisfactory use of Chinese ideographs wherever alphabetic translations involve ambiguity.

The other three papers are of direct interest to anthropologists. Dr. Holtom's discussion of Japanese tree worship presents the subject in general, with details of the worship at two tree shrines: the "Nurse-goddess tree" near Sendai, and the "divorce tree" at Itabashi in Tōkyō. His observations indicate a relatively un-

worked mine of ethnological material. It is suggested that trees were the original shrines of Shintō, tree worship appears to antedate the Sinitication of Japan. The very ideograph for sakaki (sacred tree) is "indigenous to Japan and has no true Chinese meaning." Legends explanatory of the powers of the trees described are given in translation, these, however, clearly indicate the interpolation of Buddhist hagiology to lend orthodoxy to tree-worship. Photographs and translations of ema (inscribed votive offerings) portray the prayers and the state of mind of tree-worshippers. To the reviewer, Dr. Holtom's excellent paper suffers somewhat from his persistent assumption that the Japanese word *kami* always denotes a god or spirit. This animistic theory seems particularly inappropriate in discussing dendrolatry; the use of *kami* in connection with trees, mountains, waterfalls etc., and its insertion in the names of ancient worthies seem to indicate that its early significance may have been identical with that of *mana* in Oceania. In contemporary usage, *kami* is preponderantly animistic, but even in modern times it still denotes the less personalized manifestations of supernatural power. The paper under review states that the addition of god-houses to tree shrines is modern, meeting a need not formerly apparent. If this be generally true, then the modern animistic interpretation of *kami* has apparently been added to an earlier belief that *kami* is power, impersonal, present in tree or mountain, man or spirit.

The paper on the Noro, or Loo Chooan priestesses, by Mr. Spencer, opens a subject that merits further study. Despite their significance as a link between Japanese and Malayo-Polynesian cultures, the Loo Choo (Riu Kiu) islands are little known. Mr. Spencer interprets Loo Chooan religion in terms of fire-worship. . . . the Noro is priestess to the God of Fire, represented in the hearth stones. The *skuntu*, or divine body, which represents the deity worshipped, is a set of three rather elongated stones often set in a triangle, so as to support a kettle. It is the primitive Kamado, or hearth. These are to be found in every home. Here, before the hearth, the ancestors of the household are worshipped—the Fire coming to summarize the ancestors who have sat before the hearth in past generations. One is inevitably led at this point, to think of Dr. John Batchelor's suggestion that the Japanese term *ujigami*, or clan deity, is really the Ainu word *uj* (fire) plus *kami* (deity), and that the clan-deity or clan ancestor is really the pre-deity.

Again the reviewer wonders whether *kami* necessarily denotes a personalized spirit, and whether the "God of Fire" is anthropomorphically conceived.

Mr. Spencer gives an account of the historical institutionalization of the Noro as politico-religious officials, and of their stabilizing function in the ancient Loo Chooan state. The present status of the Noro is discussed, but with inadequate detail of the practices and psychological characteristics of these female shamans. The office is hereditary; since they appear to have been celibate, "The successor to any Noro is the female child of the brother of the Noro." Instances of married Noro, and of other forms of succession, are given. These divergencies are attributed to the modern breakdown of the system. Perhaps Mr. Spencer will publish another paper, with careful description of the ritual behavior, symbolic practices, social functions and psychological peculiarities of these women, in place of the analogies to Vestal Virgins and other fire-priestesses which mar the present discussion.

Dr. Kato's paper on the Naoe festival first appeared in the Transactions of the Meiji Japan Society, 1925. The present printing is a carefully annotated English translation by Dr. D. C. Holtom, based on a special revision by Dr. Kato of the original. The fundamental question raised is the existence, extent, and purpose of human sacrifice in ancient Japan. Mindful of the easily aroused wrath of Japan's chauvinistic super-patriotic organizations, Dr. Kato does not directly assert that human sacrifice existed, but concludes that

... it is difficult to discover satisfactory grounds for denying entirely that there is evidence of human sacrifice in ancient times.

Beginning with an account of the Naoe Festival of *tsuina* (driving out of devils) at the Okunitama Shrine in Owari, he shows that the ceremonial loading of sin and impurity upon a human "scapegoat" at the close of the year was formerly an important ceremony at many shrines, and the inference is clear that such scapegoats commonly failed to survive the ordeal. Even today, the scapegoat (*Shin-man*) is violently pushed by the crowd, each of whom endeavors to transfer his sins and evil to this unfortunate individual. In the evening, lighted candles are attached to the *Shin-man*; he is pelted with pellets of peach and willow twigs, and driven from the premises. Divination is made on the basis of the circumstances under which each candle is extinguished. Ancient documents are cited to certify to the former prevalence of such festivals, and to their generally fatal termination. Olden customs of throwing women into seas and rivers to appease angry marine gods, of interment of *hitoba-hira* (human pillars) beneath foundations, and of self-annihilation of retainers who followed their master in death, are discussed in detail. Reference is made to a variety of scapegoat customs in Asia and Europe.

The inclusion of competent translations of the work of Japanese scholars is an excellent feature of this volume of the Transactions. Such translations are greatly needed; it is high time that Occidental research organizations devote a portion of their resources to the production of English translations of modern researches in Japanese and Chinese.

DOUGLAS G. HARING

Japan: A Short Cultural History. G. B. Sansom. The Cresset Historical Series, edited by Professor C. G. Seligman, F. R. S. Pp. 537+xvi, illustrations, maps. \$7.50. London: The Cresset Press, 1931, New York: The Century Co.

With the publication of this book, Professor Seligman's series sets a high standard. Mr. Sansom has added another worthy achievement to the scholarly contributions of staff members of His Britannic Majesty's Embassies.

To those familiar with available English-language histories of Japan, the preface to this book may seem restrained:

Such short histories as are now current may be dismissed as heirs of James Munro's standard work in three volumes, more or less competent summaries cobbled out by fact and fantasy of doubtful origin. I can at least say that I have not pursued this method of compilation, but have gone direct to primary and secondary sources in Japanese.

The labor involved in adequate use of Japanese sources is scarcely realized by readers unacquainted with the difficulties of the Japanese language and literature. Historians writing in English, directly from Japanese sources, may be counted on the fingers of one hand.

Histories of culture, in contrast to narratives of political events, are rare indeed. Within the limits imposed by space and intractable source material, the book justifies its claim to be a history of Japanese culture. Its author attempts the description of a complex culture, carrying that description through the tangled sequences of nearly two thousand years. He does amazingly well in achieving coherence of narration, despite the necessity of recapitulating each period from various points of view. Certain topics dear to the ethnologist, such as kinship terminology, are omitted, but a history for the intelligent general reader must of necessity fail to appease the specialist. There is abundant evidence of scholarship and critical acumen, and a happy avoidance of facile analogy. A brief bibliographical note embodies trenchant comments on existing English language studies of Japanese history.

In achieving objectivity of presentation, Mr. Sansom remains aware that the historian, by selection of material, inevitably makes appraisals. His opinions, frank and clear-cut, are as a rule distinct from portrayals of fact. Careful appraisals and generalizations are welcome when they have originated in mastery of source material inaccessible to scholars in general. There is nice balance in the evaluations:

We must beware, in discussing the arts as well as the manners of a foreign country, lest we stress their fortuitous strangeness and forget their essential identity with our own (p. 384).

Obviously, the author understands and appreciates the Japanese, obviously, too, he is capable of clear insight into those pomposities which camouflage a vacuum. Such insight is evident, for example, in the terse appraisal embedded in a brief, refreshing summary of Confucius and his teachings:

It is probable that Korea died of the Confucian malady, while the Japanese were saved by some happy strain in their temperament which resisted this moral danger (p. 410).

The relation of Japanese ambitions and appetites to the physical limitations of their islands appears as an ancient problem:

This is a phenomenon which appears at frequent intervals through out Japanese history. A given group or class ascend to power, and their demand for commodities rises, as indeed do their own numbers, since their economic situation is favorable to increase. But, while their consumption grows, production remains stationary or makes no proportionate advance, because it is limited by a factor which is nearly constant—the amount of available land. A point is therefore reached when the rulers endeavor to reduce consumption by artificial means, but these are ineffectual. Then follows a struggle among consumers, which in critical times takes the form of a civil war and a redistribution of power (p. 303).

Nevertheless the book seems free from the theoretical bias of economic, geographical or racial determinism; the preface indicates discriminating evaluation of such factors.

Without subscribing to economic determinism, I have found myself, often reluctantly, forced to recognize, and therefore to stress, the power of the economic factor in almost every phase of a nation's life.

Repeatedly the author discusses the handicap placed upon Japanese culture by an unwieldy language and a clumsy system of writing. But he refrains from formulation of theories about the relation of language to other cultural features; he is content with evaluation of a linguistic situation patent to all students of Japan.

The linguistic situation explains the paucity of source citations in English works on Japan. Perhaps, however, it is time to ask writers on China and Japan for adequate bibliographies of their sources. True, such bibliographies have reference value for very few scholars, but as critical studies multiply, Western scholarship will benefit by citation of Chinese or Japanese works by author, title and date, in both ideographic and romanized forms. Critics may then discover something of the extent to which different writers agree in interpretation of common sources. When an apparently monumental work like Takekoshi's *The Economic Aspects of the History of the Civilization of Japan* appears in English totally devoid of source citations; when Anesaki's *History of Japanese Religion* does little better, one thanks Mr. Sansom for his bibliography of works in English, but wishes that he had introduced Western readers to the authors and titles of Japanese works of reference. Allied to this difficulty is that of unambiguous reference to Chinese or Japanese place names, era names, personal names and native words in general. Such reference is impossible under conflicting schemes of romanization; perhaps under any alphabetic rendering whatever, since Chinese writing (and consequently Japanese) is semantic, and phonetic only derivatively. Cross-reference and comparison in works on Japan or China are exceedingly unsatisfactory. The solution is probably the insertion, in parentheses or footnotes, of pertinent ideographs. That solution is almost impossible to American publishers, and production of English books in China or Japan means months of toil upon the proofs. Partial solutions are evident in Wedemeyer's *Japanische Frühgeschichte*, which contains inserted ideographs in the German text, in Holtom's *Political Philosophy of Modern Shintō*, with its really adequate bibliography of works in Japanese; the English translation of Granet's *Chinese Civilization* is adequate as far as bibliography goes, but very confusing in its use of names and Chinese words without ideographic identification. The use of ideographs in such books seems unavoidable.

Students of culture diffusion, particularly in Oceania, can scarcely afford to neglect Japan. The work here reviewed is particularly valuable:

We are often told that the East is unchanging, but there is very little in the history of Japan, to support that almost fatuous dictum. Nowhere have men more eagerly, nay recklessly leaped to welcome new things and new notions (p. 424).

The impact of new cultural features is carefully traced, from the introduction of writing and the ensuing transformation, to the arrival of missionaries, guns and European diplomats. Incidentally, one discovers that Kōbō Daishi, probable in-

ventor of the Japanese kana phonetic syllabary, had studied Sanskrit in China—an item of interest to those who have followed the wanderings and transformations of the alphabet

There is a welcome conservativeness in drawing comparisons, the usual list of contrasts between Japan and the Occident is decently absent. Such comparisons as appear are illuminating; for example, in discussion of Tokugawa law:

Perhaps it would be fair to say that, whereas an English judge may have to decide the intention of a law from its text, a Japanese judge was told only the intention of the law and then had to give it effect at his own discretion (p. 451).

Events within Japan during the eighteenth and nineteenth centuries are presented to bring out the trend toward an inevitable resumption of intercourse with other nations. There is no dramatic breaking of barriers by Perry's "black ships," save as an incident in a long sequence.

... on the whole it is true to say that the peasants were heavily oppressed by members of the knightly order, who soon in their turn were exploited by the rising class of merchants. Then, as the daimyō and samurai attempted to transfer their burden of debt to the already overladen shoulders of the farmers, the agricultural economy broke down, and was replaced by a mercantile economy which Japan was unable to support without calling upon the outside world (p. 457).

Anthropologists will find valuable discussions of art, architecture, and drama, and in the opening chapters will discover what is perhaps the best general summary of Japanese prehistory, archaeology, early migrations and culture contacts. Recent developments in Japanese archaeology furnish the basis for a new chronology that lengthens the span of history by a few centuries, though the author hardly matches the fantastic, officially sanctioned chronology of the Japanese school-books.

Mr. Sansom's work should appeal to all who desire the writing of history in cultural terms, and to all students of Eastern Asia or Oceania.

DOUGLAS G. HARING

The Culture Contacts of the United States and China: The Earliest Sino-American Culture Contacts 1784-1844, GEORGE H. DANTON (xiv + 133 pp. \$2.00. New York: Columbia University Press, 1931.)

This little book presents a detailed, amply documented historical study of the first impact of American cultural influence upon China. Cultural contact is clearly envisioned as interstimulation among personalities; there are no disembodied, mystical "culture complexes" passing vaguely from America to China. The training and point of view of foreigners who lived in China, and the type of individual with whom they established contact, are to Dr. Danton the proper subjects for critical study. Early missionaries and traders, their places of residence and opportunities to meet Chinese, their knowledge of the language and contacts with the intellectual life of China; factors in Chinese resistance to foreign cultural in-

influences, the contrast between the American culture of 1800 and modern "Americanism," curricula of the earliest mission schools and type of pupil reached, early medical work, its dominating personalities and clientele-- such are the data carefully assembled and analyzed.

That Dr. Danton has undertaken such a task for a culture as complex as that of China should encourage anthropologists to study in similar fashion the cultural contacts of Europeans and Americans with simpler peoples. In such painstaking analysis of the historical relations of individual personalities, the mechanisms of culture diffusion and cultural change are ultimately revealed.

It is unfortunate that the book has not been clearly marked "Volume One"; its preface announces that

The present book by no means exhausts the subject. In fact, it merely clears the way for further study of the problem. . . . The present work, in two volumes, attempts to lay a foundation. . . .

Doubtless, the second volume will be considerably larger in its scope. Perhaps in addition to excellent portrayal of personalities in historical intercourse, it will offer more of the process of adoption in Chinese, of technical and mechanical culture. The present work emphasizes intellectual and religious aspects of culture; the scholarship of its author might with equal profit be employed in a wider field.

DOUGLAS G. HARING

MISCELLANEOUS

History of the Black People of Jamaica, by Joseph J. Williams, S. J., Ph.D., Litt. D., F.R.S., F.R.C.S., F.A.G.S. \$2.00. New York: Doubtless, 1932.

Five years residence in Jamaica impressed Father Williams with the fact that the Jamaica Negroes were unlike all other Negro types that he had seen. Particularly among those of Gold Coast origin he found Eddah and remnants of Judaism. His resultant studies led to his *History of the Black People* (1930).

But another outstanding fact was the large number of Negroes with pure Irish names. These negroes could not be explained as descendants of slaves owned by early Irish colonists, for no such names appear among the land owners in the survey of 1670. So Father Williams turns to English records of the crushing of the Irish by Cromwell, with consequent deportations of large numbers of Irish as bondmen or bondmaids to the West Indies, especially Barbados, where such names as Caven, Collins, Connolly, Donohue, Duffey, Dunn, Grogan, Kelly, McCann, McShirre, McDermott, Moriarty, O'Brien, O'Neal, O'Halloran, Walsh, abound in the old cemeteries. Father Williams gives pictures of Jamaica negro children named Collins, Walsh, McKeon, McDermott, Burke, Mackey, McCormack, Kennedy. His bibliography on the deportations and barbarities includes 175 sources. Beyond this his 100 page monograph does not go.

There remains the question upon Mendelian principles of mating hybrids reproducing in each generation a small reversion to each original parent type. Were conditions such that the pure white reversions perished more quickly than others, leaving eventually only black bearers of the Old Irish names? We have the same question in all Portuguese African areas, where seemingly pure Negroes bear old Portuguese family names.

ALLEN H. GODBEY

Urgeschichtliche Religion. Die Religion der Stein-, Bronze- und Eisenzeit. CARL CLEMEN. (Untersuchungen zur allgemeinen Religionsgeschichte, Heft 4, I Text, 140 bl. Bonn, 1932.)

The author is also editor of the series, of which this is the fourth. He is not the first to undertake the summing up of all that is known to date on the subject in prehistoric times. In some respects he has delved deeper into the subject than any other author. There are abundant references to the literature on almost every page, and at the end there is an adequate index.

A full list of illustrations for the text will soon appear as Heft 5 of the series. All students of the subject have cause to thank Professor Clemen for his indispensable contribution.

GEORGE GRANT MACCURDY

The Mesolithic Age in Britain. J. G. D. CLARK (223 pp. \$4.00. Cambridge: at the University Press, New York: The Macmillan Company, 1932.)

The title of this work is in keeping with that used by Miss D. A. E. Garrod in 1926 (*The Upper Paleolithic Age in Britain*). The age covered by Clark immediately follows chronologically that covered by Miss Garrod. The two works are complementary and should serve as models for prehistorians who might choose to cover earlier or later ages in Britain.

The volume begins with a preface by M. C. Burkitt of Cambridge University. Following the author's note, there is a handy glossary of some technical terms. In the introduction, the author points out the reasons for employing the term *Mesolithic* rather than the term "Epi-Paleolithic" proposed by Obermaier. Neither does he agree with Menghin, who would include the Mesolithic in his so-called *Mio-lithic*. The Mesolithic cultures are shown as belonging to a homogeneous whole. They cannot be grouped with the Upper Paleolithic as Menghin would have us do, because the close of the Upper Paleolithic coincides with the passing of the great Pleistocene era and thus forms, in itself, a very fitting close to an epoch.

Owing to its peripheral geographic position in relation to the continent, one would expect to find traces of initial continental impulses, and such is the case. True Azilian culture has been found in northwestern Britain. Tardenoisian culture from the continent reached Britain rather early. Likewise intrusive industries of southeastern Britain can be linked with the Maglemose and Campignian of the continent.

The relation of Mesolithic industries to those of the Neolithic and Early Bronze age in Britain also receives attention. It is evident that the great majority of Mesolithic industries antedate the arrival of the food-producing cultures. However there are traces of a slight overlapping. The author believes the evidence supports the view that the Neolithic in Britain was of short duration. He is to be congratulated on his treatment of a subject now very much to the fore not only in Britain but also in various other parts of the Old World.

GEORGE GRANT MACCUDY

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DISCUSSION AND CORRESPONDENCE

NORTHWEST COAST SPLICED HARPOON SHAFTS

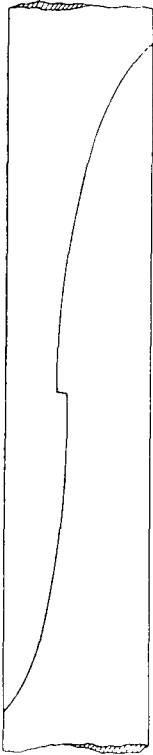


FIG. 1. Makah Indians, Teah bay, Washington, spliced harpoon shaft.

The splicing by scarfing and the joint binding of the yew whale harpoons of the Northwest Coast Indians is an example of native craft showing ingenuity and skill. The heavy, log-like harpoons of these Indians were required of such length, up to 18 feet, that the working out of an entire shaft from the yew was impracticable, hence splicing of two or more sections was necessary (fig. 1, Makah Indians, Neah bay, Washington). The binding of the splice joint was not less skillful. Tape braided from spruce root fiber and $\frac{1}{4}$ inch wide was wound around the harpoon smoothly. The tape was applied single thickness and about 20 turns. This was neatly covered with strips of smooth wild cherry bark. The lashing as completed is thin, strong, and thickens the shaft very slightly.

I am not prepared to discuss the question whether the art of splicing by scarfing is acculturated with the Northwest Coast Indians. Joinery was more common in this region than elsewhere in America, and splicing may have originated here, but so far as known the harpoon is the only example of splicing, and the art might have been picked up from outland visitors along the coast.

Joinery is used in the sense of bringing together two or more parts and fastening them. It does not include the interlacing of softer materials in basketry or textiles. Its material is principally wood, but there are examples where stone and bone, for instance, are joined, as in the shank of Eskimo fish hooks.

Joinery is not a primitive art, but begins to develop in the more advanced cultures. In this aspect it is a criterion of the state of advance.

WALTER HOUGH

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ZIMBABWE

The results of the recent excavations by Miss Caton-Thompson in Rhodesia on behalf of the British Association are now published (*Zimbabwe*, The Oxford University Press). Any ideas that these ruined fortress towns ever possessed any contemporary relation with the gold mines of King Solomon, the later city of Saba (which was the object of the ill-fated expedition of Cornelius Gallus from Egypt in B.C. 25), or the Automoli of Herodotus have been effectively destroyed. Un-

fortunately the views of writers who were born or educated in South Africa appear to be in some cases biased by present-day politics on the color question. The modern scientist does not concern himself with such problems, but no serious student of African history or anthropology considers that the autochthonous Negro inhabitants of Africa constructed their first habitations from stone. Whether the art of building in stone was introduced into Equatoria or south of the Equator from Egypt or Arabia still remains to be determined. At present it is merely a matter of opinion based upon local knowledge, and the prevalent theory favors emigrants from Arabia, but the period is unknown. Megaliths have been found in Abyssinia, but as far as I am aware no loose stone walls or buildings have been located in the Sudan south of Khartoum which could be definitely attributed to an autochthonous population of a date prior to the Egyptian records. The past and present cultures found seem to be imitative and not original, and it would seem doubtful if the African would have progressed further than the aboriginal Tasmanian without exotic influences. This is not the time or place for theorising, but the writer suggests that there is great scope for research left for those who desire to solve problems regarding the origins of the Bantu races and their ancestors. Native histories are redundant with stories of non-Moslem and Moslem adventurers or refugees from Arabia who founded dynasties in Africa by alliance with Negro rulers prior to and since the Moslem invasion of Egypt or Africa. From the Arabic historians it would appear that the great slave trade between East Africa and the Persian Gulf was developed or taken over by the Arabs immediately after they had conquered Persia in 651 A.D. As the earliest date now fixed for the "Zimbabwe" stone building culture is the fourteenth century it is not impossible that this culture is merely imitative and that the original builders were fugitive slaves or an adventurer such as the reputed founders of the now extinct Sudan dynasties (*American Anthropologist*, vol. 31, no. 2, and *Journal of the African Society* 1928-30). From this it will be seen that unless some definite attempt is made to construct the history of East Africa, anthropological conjectures are useless, as very few native histories commence before the sixteenth century of our era.

A. E. ROBINSON

INTERNATIONAL EXHIBITION OF RECENT ARCHAEOLOGICAL DISCOVERIES
(BRITISH SECTION), PRE-HISTORIC AND SAXON EPOCHS IN GREAT BRITAIN:
HELD AT THE LONDON MUSEUM, ST. JAMES, LONDON, AUGUST 1932

This temporary exhibition was arranged by Dr. R. E. M. Wheeler Ph.D. M.A., M.C. who possesses a special genius for museum organization and exhibition in a manner intelligible to the general public. To quote from his catalogue:

the primary purpose is to present to the International Congress of Prehistoric and Proto-historic Sciences, which meets in London from August 1st to 6th 1932, a concrete illustration of the materials with which the appropriate departments of British Archeology are now specially concerned.

It is almost impossible at present to fix the dividing line between these various sciences, although perhaps numismatics has not received the attention which it should have done on previous occasions. A concrete instance of the close association of anthropology and archaeology occurred at one of the meetings, when the great antiquity of the skull found in East Africa was questioned. The importance of numismatics is exemplified by the exhibit of the tiny imitated coins found at Lydney. They are not forgeries, as the contributor to a London paper described them, but were either the currency of Britain during the fifth century or valueless funerary offerings. There are parallels at Hawara (Fayum), but much research and comparison is necessary before any definite opinion can be given as to the purpose of these coins of 3.75 mm diameter. The exhibits have been lent by various museums and they represent "Man" from the Pleistocene period until our obscure period which immediately occurs after the Roman evacuation. The labelling of the exhibits is a model for others, and the catalogue is an interesting and well written record of man's progress through the ages exemplified by the various exhibits.

A. E. ROBINSON

EVIDENCE OF MIGRATION IN ANCIENT PUEBLO TIMES

Hill canyon, forty miles south of Ouray, Utah, has ten sets of ancient ruins, and in Nine Mile canyon, across Green river, about west of these ruins, there are several very similar remains of ancient days. Omitting the cave finds, these ruins, in the main, consist of cliff-houses, with or without associated towers, squarish to rectangular houses, forts, and towers (circular buildings) in the open.

The forts were built on eminences that project from the mesa walls into the valley so as to give a commanding view of the canyon and surrounding heights, while the towers similarly top eminences. The latter were apparently fort-lookouts which also served as religious buildings, being often constructed in as nearly a circular kiva-form as their perched location would permit. The ruins of these two canyons, and especially those of Hill canyon, all of which are of Pueblo II age, seem to have their counterpart in the aboriginal towers and forts in the valley of the San Juan and its tributaries, especially the Yellow Jacket canyon and those canyons entering it from the north side. They are specially like structures of what we used to refer to as boulder type in the McElmo region, in extreme southwestern Colorado and southeastern Utah, in some of which the principal top of the boulder, both there and here, has been used to support a comparatively high tower, with a part of this tower extending over the edge of the boulder to the ground below, thus permitting structures that have remained to a considerable height to this day. However, the masonry of the buildings here is much inferior to that of the Yellow-Jacket-McElmo ruins—the masonry was good and well chinked there and is crude here. Furthermore, the pottery here is both scanty and very crude in make and is usually a plain gray to dark ware without decoration; while that of the ruins of the more southern clime is much advanced both in make and in decoration. Nevertheless, as the ruins left in the two regions certainly have a great likeness and seem to have had a like re-

ligious significance besides other uses, the writer is of the opinion that the same folk erected both sets of buildings. He further believes that the towers, lookouts, cliff-houses, and forts in Hill and Nine Mile canyons antedate those to the southward by a lapse of time sufficient for this people, in their southern trek, to perfect the masonry art and to develop the better grade of pottery with its elaborate decoration. The finds therefore seem to furnish evidence of a trek of at least one division of the Pueblos from the Uintah Basin lands in the northeastern Utah to the Yellow-Jacket-McElmo country, beginning sometime in Pueblo II times.

ALBERT B. REAGAN

A CROW INDIAN MEDICINE

The Crow Indians constantly refer to a root, *isé*, used for incense and as a cure for various ailments (see, e.g., R. H. Lowie, *The Tobacco Society of the Crow Indians*, AMNH-AP 21: 141, 1920). Some interpreters refer to it as "bear-root." Specimens of the root have been collected and deposited in the American Museum of Natural History and the Museum of Anthropology of the University of California, but did not prove sufficient for identification. Accordingly, I asked my interpreter to collect complete specimens of the plant at the proper season. Through the kindness of Dr. Frank Thorne of Science Service, one of these was examined at the National Herbarium in Washington, D.C. and identified as *Leptotaenia multifida* Nutt., a member of the Carrot family.

ROBERT H. LOWIE

A NOTE ON THE MECHANICAL PRINCIPLE OF THE OUTRIGGER

It has been admitted *a priori* that the double outrigger is a more highly developed form of the single outrigger. The aim of the present note is to show that mechanically no affiliation or genetic relationship can be traced between these two types. It is not our intention to question the idea of the existence of a historic connection but merely to show that a proof for such connection cannot be found in the mechanical principle of the outrigger types

Theory of the Single Outrigger

The center of gravity is located on the axis of maximal stability which shifts in the space between the outrigger and the canoe (fig. 1a). Being on the edge of the floating surface the canoe will have a maximal oscillation. The outrigger will merely compose the oscillations of a high frequency on a short trajectory (i.e. shaking) into oscillations of low frequency on a long trajectory (i.e. balancing or swinging). Two possibilities present themselves:

a) The load is on the side of the canoe on which there is no outrigger (fig. 1b). The heavier the load and the lighter the outrigger, the nearer to the canoe the fulcrum will shift, according to the law of the simple two-armed lever. (Arm of lever $a \times \text{force } a = \text{arm of lever } b \times \text{force } b$.) In this case the outrigger acts chiefly through its weight.

b) The load is on the side of the outrigger. In this case the outrigger will be forced under water and will act through its buoyant force. Owing to the buoyant force of the canoe the fulcrum will be under the canoe while the load will be between the fulcrum and the buoyant force of the outrigger. This is a one-armed lever (fig. 1c). A high degree of stability such as is required for high sea travel of big boats can only be secured through a heavy outrigger, suitable material for which can only be obtained from the mainland or the volcanic "high" islands of the Pacific where heavy lumber is available.

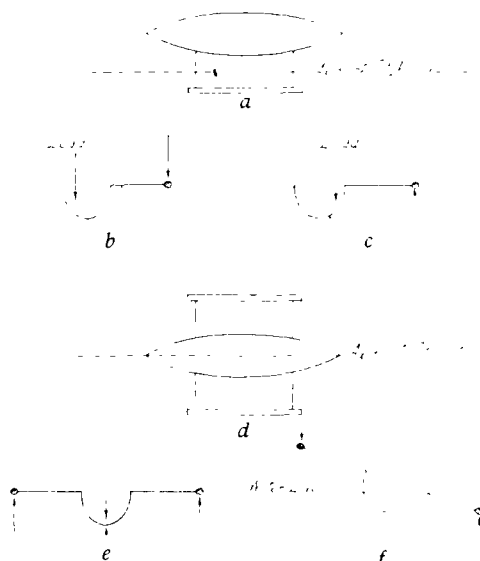


FIG. 1. Theory of the outrigger.

Theory of the Double Outrigger

The axis of maximal stability will be located between the two outriggers, that is, in the canoe (fig. 1d). Being in the center of the floating surface it will hardly move, while the outriggers will make oscillations of low frequency on a long trajectory. A high degree of stability can be obtained by using timber of a lesser density, such as palm trees obtainable on the low atolls of the Pacific Ocean. Two cases may be considered:

a) The canoe is in a position of total equilibrium. Both outriggers will augment the floating power of the boat, through their buoyant force (fig. 1e).

b) The position of the canoe shifts so that one outrigger will be forced under water while the other is lifted over the water (fig. 1f). The former will act through its buoyant force, while the second enforces the action of the first through its weight. This again is a double-armed lever.

In this discussion we have described only the ideal case in its final distribution of forces. The load may, of course, be replaced, augmented, or balanced by the pressure of the wind on the sails. Historically speaking, both types of outrigger may be considered as an improvement upon the means of navigation. Yet, the logical—and mechanical—evolution of the principle of the single outrigger is toward the double canoe with or without deck, while there seems to be no further step from the mechanically more complex double outrigger canoe.

Acknowledgments are due Professor Leonard Loeb and Dr. Otto Mücke for assistance in working out details.

GEORGE DOBO

NOTES AND NEWS

THE NATIONAL MUSEUM OF CANADA announces that it has available gratis single reels of motion picture film of about one thousand feet each, made by officers of the Museum

By Harlan I. Smith.

In Canada's Fjords (showing the Norwegian-like character of the country around Bella Coola, the Norwegian colonists and their methods of earning a living by farming, fishing and logging)

The Bella Coola Indians of British Columbia
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These films are subtitled and are available on application to the *Director of the National Museum of Canada, Ottawa, Ontario*. The only expense is the expressage both ways. The films are of standard (35 mm.) width and so may be shown in motion picture theaters.

The negatives are in order, so that prints may be had from any of them at cost, that is, with no charge for the use of the negative.

The films represent all the linguistic stocks of British Columbia except the Haida. Several films taken at the same places as the above are being made up to represent arts, industries, etc.

By P. A. Turner.

Birds of a City Garden
A Naturalist in the Arctic in Hudson Bay
A Naturalist in the Arctic in Baffin Bay.
Hunting Dinosaurs in Alberta (3 reels).

The following are nearly ready but await titles

Some Birds of the Prairies Water Birds.
Some Birds of the Prairies Land Birds
Some Birds of the Gulf of St. Lawrence Bonaventure Island.
Some Birds of the Gulf of St. Lawrence The North Shore.

If 16 mm. instead of standard films are required, one may arrange for their loan with the Ontario Government Motion Pictures Bureau, Toronto, Ontario, who

have had films made from some of the National Museum of Canada negatives from which the National Museum of Canada standard size films were printed.

THE SOCIAL SCIENCE RESEARCH COUNCIL Annual Report which appeared in December is available to individuals upon request to the Executive Director, Mr. Robert T. Crane, 230 Park Avenue, New York City.

THE NATIONAL RESEARCH COUNCIL announces that applications for Research Fellowships in the Biological Sciences must be in not later than March first and that appointments will be made about the first of May.

HARVARD AFRICAN STUDIES IN ANTHROPOLOGY published by the Peabody Museum of Harvard University, in order to make them more accessible to scholars, are offered at half their former price.

ON BEHALF OF THE ROYAL ANTHROPOLOGICAL INSTITUTE, 52, Upper Bedford Place, London, W.C. 1, Professor John L. Myers is inviting anthropologists to a preliminary meeting at Basel, April 20-22, with the object of establishing an International Congress for the Anthropological and Ethnological Sciences. Professor Felix Speiser of the University of Basel will be pleased to answer inquiries concerning local accommodations. His address is St. Alban Vorstadt 108, Basel.

DR. FRITZ KRAUSE in the January, 1933 issue of the *Mitteilungsblatt der Gesellschaft für Völkerkunde* has analyzed the opinions of 54 persons responding to his inquiry concerning an International Congress for the Anthropological and Ethnological Sciences. Preference for a separate Ethnological Congress is expressed, but also the desirability of general sessions with kindred sciences, combined with special sections.

THE AMERICANIST CONGRESS at its recent meeting in La Plata decided to accept an invitation to meet at Seville in 1934.

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a



b

Tajin. *a*, East facade of main pyramid, *b*, north side of main pyramid.

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THE PLACE OF TAJIN IN TOTONAC ARCHAEOLOGY¹

By ELLEN S. SPINDEN

THE pyramid called Tajin is situated a few hundred feet above sea level in northern Vera Cruz, Mexico, two leagues west of the provincial center Papanthla. Scattered through the tropical forest that covers all the ancient city except the main pyramid, and connected by a network of trails, are the small plantations of a population which still speaks the Totonac language and grows the vanilla orchid² probably domesticated by the early Totonacs.

The niche-covered pyramid shown in plate VII has been known since 1785 and briefly visited many times.³ At a Congress of Americanists in 1904

¹ The substance of this article was presented at the Congress of Americanists, Hamburg, 1930, following an expedition to Tajin in April, 1929, under the auspices of the Peabody Museum of Archaeology and Ethnology and the Buffalo Museum of Science. A second visit was made in April-May, 1931, for the Brooklyn Museum, and the results were incorporated in the manuscript submitted to the Congress in July of the latter year, but publication was delayed. The article is here re-written with the addition of new matter embodying further research. I am indebted to Dr. Herbert J. Spinden for various references and assistance in the preparation of the article, as well as for most of the photographs. Drawings are by myself except where otherwise indicated.

² Sahagun pictures vanilla, *Historia de las cosas de Nueva España*, Pl. CXVIII, 717, in Portfolio of plates from Troncoso's Sahagun issued by the Mexican Government, Florence, 1922, and elsewhere refers to it as *tlilxochitl*, Bk. VIII, Ch. 13. Other references are: 1. Hernandez, *Cuatro libros de la naturaleza y virtudes medicinales de las plantas y animales de la Nueva España* (written 1570-77), translated by F. Ximenes, Mexico, 1615, reprinted by N. Leon, Morelia, 1888, p. 9; C. Clusius, *Exoticorum Libri Decem*, Antwerp, 1605, Bk. III, Ch. 18, R. A. Rolfe, *A Revision of the Genus Vanilla*, Jour. Linnean Soc. 1895, vol. 52, pp. 439-478.

Discovery by Diego Ruiz was reported in *Gazeta de Mexico*, July 12, 1785, reprinted in *Diccionario Universal de Historia y Geografía*, Mexico, 1853-56, vol. X, pp. 120-121. This account is the basis of P. Marjuez, *Des antiques monuments*, Rome, 1804, A. v. Humbloldt in his *Essai politique sur le royaume de la Nouvelle Espagne*, Paris, 1811, vol. II, pp. 345-348, says that Dupax visited the ruin and made a drawing of the hieroglyphics with which these

Professor Selser made a statement important for Totonac archaeology:

At Tajín . . . we found reliefs which resemble most in style the ornamentation of the problematical stone yokes, so-called, and the sculptures . . . known under the name of 'palmas' ⁴

Dr. Krickeberg in his study of the Totonacs also recognized that palmate stones were closely related in style to the sculptures of Tajín and when discovered in areas bordering on ancient Totonacapan might be considered evidence of Totonac culture ⁵

Although these characteristic antiquities of the region have at times been attributed to Aztec, Huastec or Olmec peoples, most writers have assigned them to the ancestors of the present Totonacs. When Cortes entered Cempoala in 1519 the Totonac linguistic group inhabited that part of Vera Cruz between the Tuxpan and Antigua rivers and west to the high Sierras, with the exception of certain highways and colonies of conquering Aztecs. These are the boundaries given by "Torquemada" for ancient Totonacapan, but he also records intrusions from the highlands, Chichimec in the fourteenth and Aztec in the fifteenth centuries, which resulted in localized loss of independence with shifting and shrinking, but not a general displacement of population. A core of this area in Vera Cruz and Puebla today maintains a population of about 60,000 who speak Totonac. As no scattered bodies of Totonac speech exist in Mexico outside the area de-

enormous stones are covered. It is to be wished that he would publish the description of this interesting monument." Karl Nebel's drawing was published in *Voyage pittoresque et archéologique dans la partie la plus intéressante du Mexique* (Paris, 1836). A report made in 1845 by J. M. Bausa appeared in *Bosquejo geográfico y estadístico del Partido de Papantla*, Soc. Mex. Geog., *Boletín* vol. V, 1857, pp. 374-426. The results of the Paso y Troncoso expedition of 1891-92, with plans by Romero and Castillo, were not published until 1912 as *Las Ruinas de Cempoala y del Templo del Tajín*, notes edited by J. Galindo y Villa in *Anales del Museo de Arq. Hist. y Etnología de México*. There is an undated photograph of the main pyramid by Teobert Maler. J. W. Fewkes visited the pyramid and published a photograph in *Certain Antiquities of Eastern Mexico*, BAE-B 25, Washington, 1907. Sculptures from the main pyramid are shown in E. Selser's *Eine Steinfigur aus der Sierra von Zacatlán*, Boas Anniversary Volume, New York, 1906, pp. 299-305 and *Ges. Abh.*, vol. III, 1908, pp. 537-542.

⁴ *Die Alterthümer von Castillo de Teayo*, 14th Congress Americanists, Stuttgart, 1904, pp. 263-304, *Ges. Abh.*, vol. III, 1908, pp. 410-449, p. 410.

⁵ *Die Totonaken*, Baessler-Archiv, 1918-22 and 1925, vols. VII, 1-55, and IX, 1-75, vol. VII, 20-21.

⁶ J. de Torquemada, *Monarchia Indiana*, Madrid, 1723, Bk. II, Chs. 1-6, 47, 72, Bk. III, Chs. 9-11, 13, 17, 18, 21 (on boundaries). On invasions see also Sahagún, *Histoire générale*, Jourdanet and Siméon edition, Paris, 1880, Book VIII, Chapter 1.

scribed, and as the affiliations of the language⁷ are undetermined, we may assume that the Totonac language group has dwelt in this same area for a rather long period, at least a thousand years.

Accordingly it is logical to hold the Totonacs responsible for those archaeological types within their country which appear to have reached an artistic peak as late as the thirteenth century. As we hope to demonstrate in this article, the flowering of Totonac art took place at a time of Toltec dominance when the religion and culture of the civilized Mexican and Central American world were so nearly an entity that even manner and modes of representation can easily be traced from one to another of the

⁷ Texts in the Totonac language are rare. The following items are noted.

Joseph Zambrano Bonilla, *Arte de la lengua Totonaca*, including *Una doctrina de la lengua de Naolingó* by Francisco Dominguez, Puebla, 1752. It is possibly a reprint of the latter which is quoted by Krickeberg as Fr. Dominguez, *Catecismo de la Doctrina Cristiana puesto en el Idioma Totonaco*, Puebla, 1837.

Bocabulario de la idioma Totonaca conforme el uso de la cierra alta, 18th century, 93 pp.

Doctrina Christiana en lengua Totonaco de 1780, 38 pp.

The two latter are manuscripts and are said by R. Schuller (*Beitrag zur Bibliographie der Sprache der Totonaca-Indianer*, *Internat. Jour. Amer. Ling.*, 1930, vol. VI, no. 1, pp. 41-46) to be at Tulane University.

Three manuscripts in possession of the Hispanic Society are Juan Manuel Dominguez, *Bocabulario de la lengua totonaca y castellana, y lo que se trata en el. ques la doctrina christiana - y el confixionario . . . 1749*, 95 leaves.

Vocabulario de idioma totonaca y castellano Catecismo de doctrina cristiana en idioma totonaca para el uso de Maestros de escuela ó estudiantes que quieran aprender cierta idioma, 1789, 28 leaves.

Vocabulario, Manual de las leguas castellana y totonaca en que se contienen las palabras, preguntas y respuestas mas comunes y ordinarias que se suelen ofrecer en el trato, y comunicacion entre espanoles e Indios, 18th century, 22 leaves.

A resident of Papantla, Celestino Patiño, is the author of *Vocabulario Totonaco*, Xalapa-Enriquez, 1907, 53 pp.

A copy of *Vocabulario Totonaco*, manuscript of 19 pages, belonging to Luis Murillo of Jalapa, was obtained in 1899 by Dr. Walter Hough, and is now in his possession in the United States National Museum, Washington.

Others who are said to have recorded Totonac include Andrés de Olmos, *Grammatica y diccionario*, Cristobal Díaz de Anaya, *Grammatica y diccionario*; Antonio de Santoyo, *Catecismo y confesionario*, Eugenio Romero, *Grammatica*, Francisco Tobar (or Toral), *Arte y Vocabulario de la lengua Totolaca ó Totonaca*. According to W. E. Gates (*The William Gates Collection*, New York, 1924, nos. 924-925) there is a fourth Maximilian Fischer-Phillips manuscript at the Hispanic Society, an incomplete *Sermones* of the sixteenth century.

F. Pimentel has a brief study of Totonac in *Cuadro descriptivo y comparativo de las lenguas indigenas de Mexico*, Mexico, 1862, vol. 1, pp. 221-268, and of Tepehua, vol. 2, 1865, pp. 41-68. F. Starr collected a short Totonac vocabulary, *Notes upon the Ethnography of Southern Mexico*, Part I, *Proc. Davenport Acad. Nat. Sci.*, vols. VIII and IX, 1900-1902; 1900, appendix. Other notes exist in the writings of Buschmann, Orozco y Berra, Brinton, Thomas and Swanton and Krickeberg.



a



b

Yohuallichan. *a*, Niches of main pyramid, *b*, east façade of main pyramid.



a



b

a, Typical niche of main pyramid at Tajin; *b*, niches at Labna, Yucatan.

niches in this extensive ruined city, as well as at the site of Yohuallichan¹⁰ (pl. VIII), twelve leagues southwest of Papantla and half way up to the plateau. In the ruins of the southern Totonac area, of later date than Tajin and Yohuallichan and also less well provided with building stone, single niches survive at the back of the structure, as at Paschilila in the Misantla region and at Cempoalla in the Temple of the Little Faces. Paso y Troncoso observed niches in the main stairway at La Calera¹¹ near Puente Nacional, and also at Colorado and Los Atlixcos, exactly like niches pictured in the Codex Nuttall (fig. 4).

While the architectural niche was especially developed by the Totonacs, it was apparently an early element in the architectural complex of the high American civilizations. In the Old Empire of the Mayas niches occur occasionally at Tikal, Yaxchilan, Palenque and elsewhere, but there is no proof that in the time of the Old Empire the Totonacs had emerged from a primitive stage of culture. They were more open to civilizing influences by the Maya Middle Period, about 650 to 1000 A.D. At Rio Bec, a ruin of this period, there are niches which are sealed doorways, in towers reached by decorative stairways. Later balustrades of Mexico and Guatemala have steep upper parts projecting bastion-like from the pyramid platform, and in the Totonac area these vertical upper parts of balustrades contain niches. Maya influence has been inferred.¹²

Niches of northern Yucatan, at Uxmal, Chacmultun, Chacbolay, Labna (pl. IX) may be a parallel development to the Totonac from a common source in the Maya Middle Period, although they usually occur in structures where there are other indications of contact with Mexico. The Yucatecan niches differ from the Totonac in being treated as little god houses with roofs. At Labna they show traces of color and stucco fragments of a headdress of the god that was seated within. Sometimes there are niches on the inner walls of rooms, as at Kewick and Sayil. This is the position of the many niches at Chavin in distant Peru,¹³ where there are numerous hints of northern influence.

In the niches at Tajin and Yohuallichan there is a graded recession on all sides, and the corner niches open through, lightening the architectural

¹⁰ E. Seler, *Eine Steinfigur aus der Sierra von Zacatlan*, 1908, p. 538, mentions a photograph by Adela Breton of this site, which has been described by E. J. Palacios in *Yohuallichan y el Tajin*, *Monumentos arqueologicos en Cuetzalan, descubiertos por la Dirección de Educacion Publica*, Pub. de la Secretaria de Educ. Pub., 1926, vol. IX, no. 16.

¹¹ *Op. cit.*: CXL-CXLIII.

¹² H. J. Spinden, unpublished manuscript.

¹³ J. C. Tello, *Andean Civilization; Some Problems of Peruvian Archaeology*, 23rd Congress of Americanists, 1928, New York, 1930, pp. 259-290, figures 12 and 13.

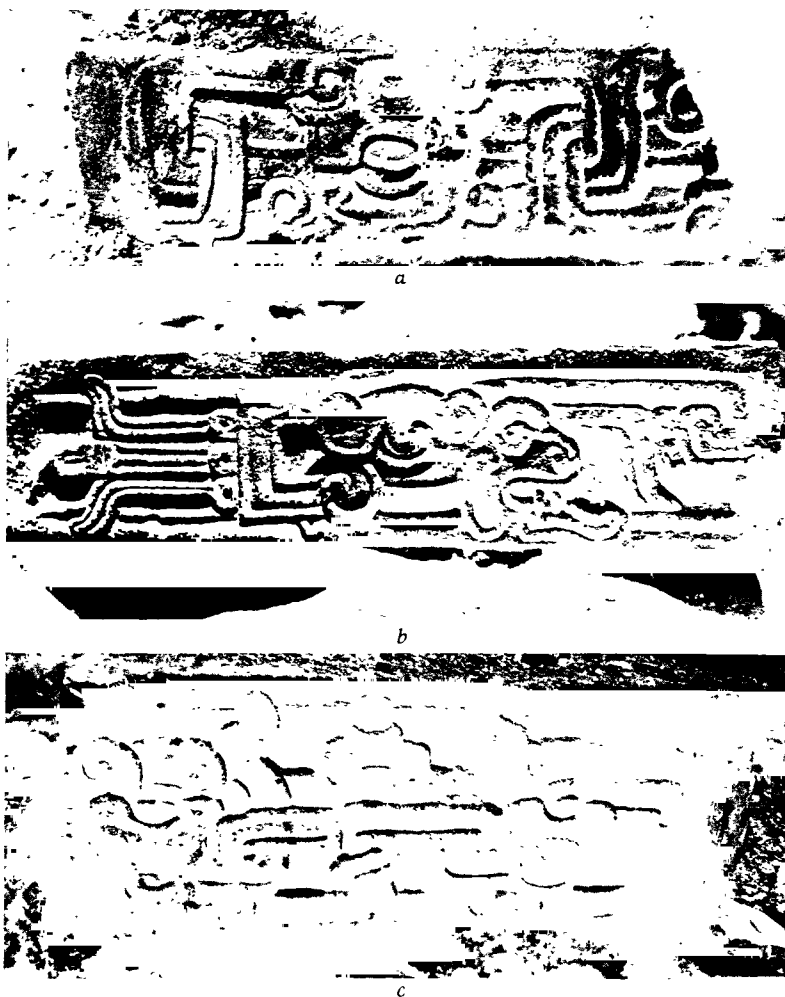
effect. It is apparent that the niches were neatly plastered, and those at Yohuallichan were painted red. Although the niches contain much crumbled stucco, nothing else remains to solve the mystery of their contents or purpose, or to show whether they were thought of as little temples or tiers of rooms.

Main Pyramid Called Tajin. On the upper terrace of the main pyramid are fragments of sculpture of half a dozen types. Mapping the position of these carved pieces convinced us that they came from a building above the sixth terrace, composed of a lower zone of niches (the seventh niche series) and an upper zone decorated with carved stones. In other words, above the niches was a wall containing pictorial panels set in a sculptured framework. Dupaix claimed that the sculptures formed part of the terraces, but the plain cement covering of the niches and retaining walls of these terraces, sometimes in perfect condition, indicates clearly that the sculptures were restricted to a temple sanctuary that capped the pyramid.

Plate *Xa* and *c* shows two blocks 9 inches and 13 inches high respectively, bearing the conventionalized reptilian design with double outlines and flowing angles, rather than normal curves, that we associate with the Totonacan yokes and palmate stones. These are examples of stones which may have been used in string courses. High up on the pyramid, as well as at its foot, we found broken square slabs, 4 feet on a side, all having the same 6 inch border and showing gods and men (fig. 1). Owing to the fragmentary condition of these panels, the subject matter is not clear. In three cases there is a human or divine figure, seated. The tusked animal in plate *Xb* may be an attribute of the god in figure 1*a*. Other sculptures from the pyramid may be seen in plate *XI*. Among the smaller sculptures is a thin slab with stepped battlement motive in low relief similar to the true battlements on buildings at Cempoalla and in the codices.

The roof of the temple sanctuary was probably flat and composed of rubble over poles, not a pointed thatched roof as in some reconstructions modelled on pictures in the codices. There is evidence of this in the masses of rubble lying inside the seventh tier of niches. On the east building of Tajin Chico (see page 234) sections of rubble roofing two feet thick rest on the fallen rubble walls. Also as an example of a flat ceiling in the Totonac region, we may cite the small dark chamber or tomb at the northeast end of the ball court at Yohuallichan which is said to give the ruin its name, meaning in Aztec, House of the Night. The single horizontal slab is 12 feet 10 inches by 8 feet 10 inches. Early drawings¹⁴ of temples at Tusapan and

¹⁴ Nebel, *op. cit.* unnumbered plate. Templo antiguo de los Totonacos en Tusapan Dupaix, *Antiquités mexicaines, première expedition*, Paris, 1834. (Huatusco)



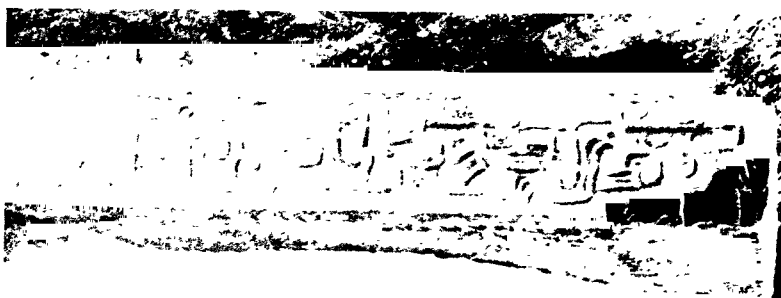
Tajin. Sculptures lying on terraces of main pyramid.



a



b



c

Tajin. Sculptures lying on terraces of main pyramid (the upper stone is fallen beside pyramid). Photographs by Ellen S. Spinden.

Huatusco, on which too great reliance cannot be placed, show high roofs of stone and mortar construction. Nebel describes the room surmounting the pyramid at Tusapan as vaulted, and the temple of Huatusco according to

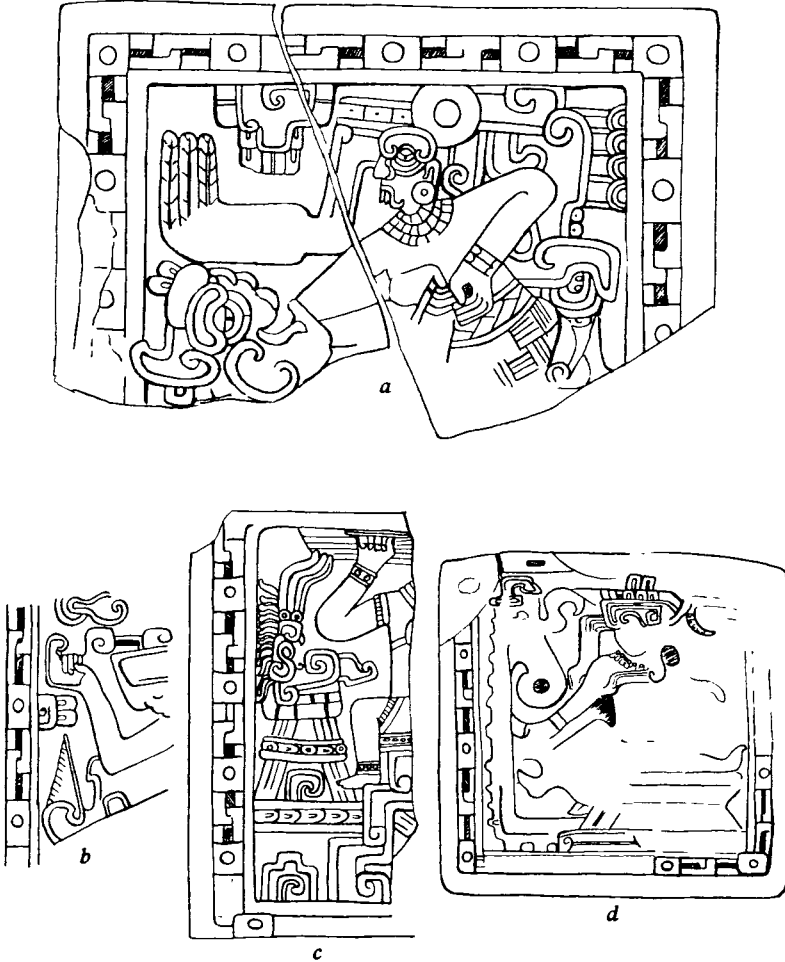


FIG. 1. Tajin. Fragments of panels four feet square with identical six inch border from the main pyramid. Drawn to different scales.

Castañeda's drawing has a sloping roof, while, within, the holes for cross beams are visible.

Small temples on the coast of Vera Cruz, apparently similar to each

other, though at different sites, are described by Strebel¹⁵ and Paso y Troncoso.¹⁶ Strebel gives a drawing showing pitched roofs, and states that they are probably of Spanish construction. These buildings suggest strongly the small sanctuaries of late but pre-Spanish date on the east coast of Yucatan. At Cempoalla the Temple of Montezuma and a small building immediately southwest of the Great Temple have a generous filling of large field stones in their mud walls, with a covering of the thick durable cement which is usual in Totonac construction. Their rooms are smaller than the sanctuary at Tajin (which is about 16 feet square, inside measurements), and the remnants of walls are as high as a man's head. Such sturdy walls may have supported roofs of rubble.

The majority of structures at Cempoalla, however, such as the Great Temple and the Temple of the Chimneys, have large rooms with low thin walls, and quite probably had thatched roofs. The same is true in the Misantla region,^{16a} even where cut stone was employed, and we found no high walls at Mapilca, a site south of the Tecolutla river, which we visited in 1931. While the palm thatched roof was undoubtedly the rule throughout Totonacapan and is indicated on the majority of mounds at Tajin where walls are only a foot or two high, we must grant a few rubble roofs as well. In the Codex Nuttall both types of roof are shown, and there is also proof of flat roofs at Mitla¹⁷ (10 feet wide with single beam span and 22 feet wide with one column), and in the latest architectural period of Yucatan. Roofs of solid material also appear to have been correlated with the use of building stone in the high walls of comparatively small rooms. Possibly they were an early experiment later abandoned or reserved for certain sanctuaries.

The rubble-roofed sanctuary of stone and cement thus postulated on the main pyramid at Tajin finds its closest analogy as to decoration in the sculptured temple of Xochicalco. Panel stones such as those of figure 1 formed an upper zone resting on the niches, with the conventionalized bands as cornices. We saw corner pieces in both the 9 inch and 13 inch width cor-

¹⁵ Alt-Mexiko, 1889, vol. II, p. 15. Discoveries at Tacahuite near Vega de Alatorre

¹⁶ *Op. cit.*: CXLIV-CXLV. "Some of the explorers of the Commission de Cempoalla discovered in the Cerro de Maria Andrea . . . the singular constructions called in the country Las Boveditas because of their small size. they have the appearance of Aztec houses, they are built of cut stone and covered with plaster and have the peculiarity, common to all, of having their doorways facing the sea, and in general the east. They are closed on all sides with a single entrance which gives them the appearance of niches."

^{16a} H. Strebel, Ruinen aus der Misantla-Gegend, Sep. Abh. d. Naturwiss. Vereins von Hamburg-Altona, 1884, vol. VIII, no. 1.

¹⁷ W. H. Holmes, Archaeological Studies among the Ancient Cities of Mexico, Field Columbian Museum Publication 8, 1897, pp. 238-239.

niches, and one of these can be made out lying on the fourth terrace in plate VIIb and also is shown in plate XIc. The larger blocks were probably above, overhanging the panels and carrying out the architectural concept of the niches, but in a less stable manner.

There are at least three stages of construction apparent in the main pyramid as it now stands, with the added possibility that an older buried temple might be discovered by excavation. Plate VIIb shows in the ruined lowest terrace, the undecorated and sloping core of terraces, a finished surface against which the niches were added without binding stones. The niches pass under the stairs which seem to have been the last stage in construction. To build niches and then cover them indicates either a change of plan or additions to an earlier structure, or perhaps an astronomical significance in the count of niches. It does not take much juggling with the faulty data of the ruinous east façade to arrive at a total for the pyramid of 365 niches (one for each day of the civil year), and this game has been played by most students of Tajin. In justification Maudslay's plan of the Castillo at Chichen Itza gives 52 sunken panels on each face, the number of years in the calendar round¹⁸

The name Tajin translated from the Totonac as trueño, thunder—has been applied to the main pyramid and the district surrounding it, since Ruiz first described it in 1785. If we are so fortunate as to have a survival of an ancient name in this instance, a dedication is suggested to Tlaloc, the mountain rain god. Tlaloc is important in the archaeology of Vera Cruz, and at Castillo de Teayo appears in one case with the Maya Venus sign on his head, and in another as Lord of the Year, with the Mexican year symbol. Equally good reasons can be developed for assigning the pyramid to the Sun God or the Morning Star. Comparisons of sculptures at the main pyramid with other sculptures at Tajin, as to style and as to the prevalence of animal and semi-animal deities, and architectural considerations as well, have convinced us that this main building represents an early Totonac construction, possibly of the twelfth century.

The Plaza Altar. The plaza, formed by the main pyramid of Tajin on the west and three other mounds, contains an altar 15 feet 6 inches on each side. This altar is aligned with the stairway of the main pyramid. Foundation stones are in place, and one tier of undecorated stones which must have been surmounted by a perishable structure. The carved stones lying within and about this altar have appeared in several photographs of the

¹⁸ A. P. Maudslay, *Biologia Centrali-Americana, Archaeology*, 4 vols., London, 1889-1902, vol. III, pl. 55.

pyramid. It is a question whether they belong to the altar or come from the pyramid above.

A peculiarity of two blocks, one of which is shown in plate XIIa, is that the design continues around two sides. These appear to be corner sculptures, but there are not enough of them to have formed a band surrounding the altar, and their use was possibly at a doorway where the sculpture was thus carried inside the building. The long worn block, reproduced by a cast in the Museum für Völkerkunde, Berlin, actually has a curved surface, while all the others we have seen at Tajin have plane surfaces, and it may have been a lintel. The stone of plate XIIa has a single grotesque animal face bent around the corner, which serves for bodies on adjacent sides. On each side is an arm, and below it a shield with crossed arrows. This mode of representation may be compared to the art of the Northwest Coast, a simi-

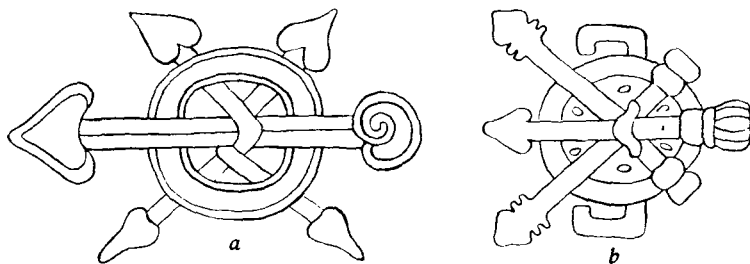


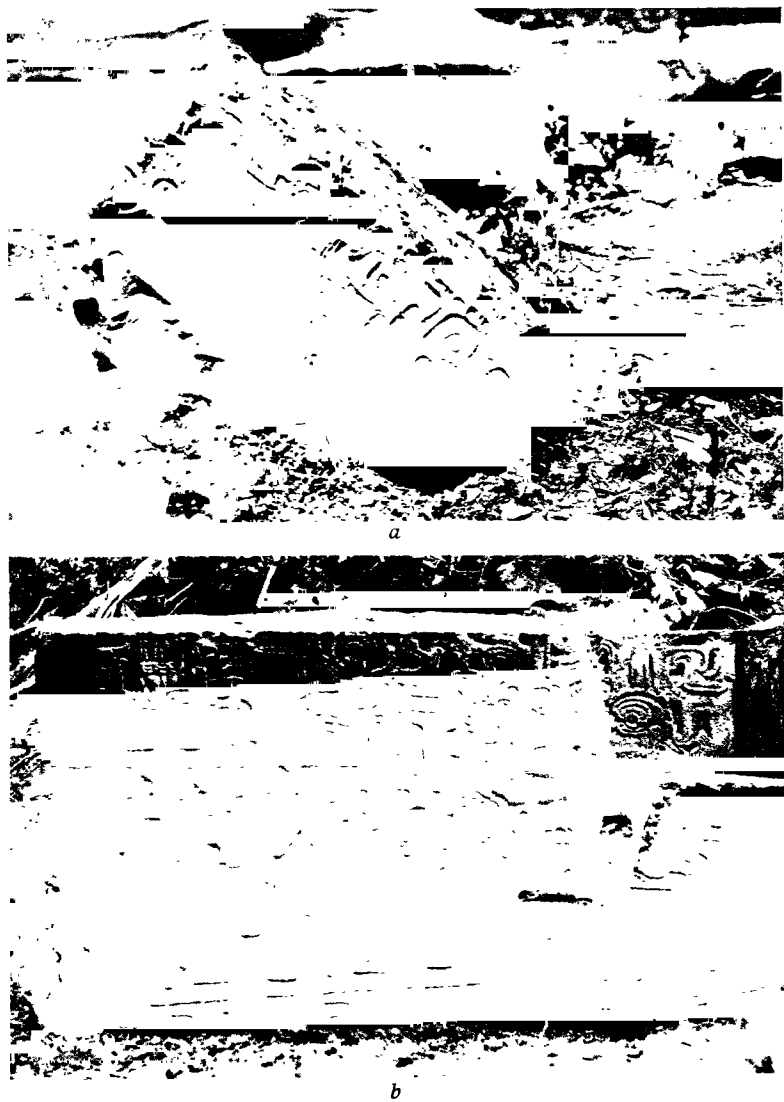
FIG. 2. Crossed arrow motive, *a*, Tajin, Lesser Ball Court, *b*, Chichen Itza, Temple of the Jaguars (after Seler).

larity noted by Holmes for the stone yokes.¹⁹ The crossed arrow motive (fig. 2 and pl. XIIa) is found on the highlands of Mexico, and also as a roof decoration at Chichen Itza. Moreover, plaza altars of this type appear at Teotihuacan, Cempoalla, Chichen Itza, and on the east coast of Yucatan.

Tajin Chico. Among the many mounds in the thick woods interspersed with milpas that surround the main pyramid, there are on the north two interesting substructures with parts of the original surfaces. These are the opposing sides of two buildings three yards apart, leaving a little passageway between. This place is called by the natives Tajin Chico and is mentioned in the Troncoso report.²⁰ The walls are ornamented with sunken panels according to the system shown in figure 3, large ones below (which retain traces of color in places), and narrow upper ones having an overhang

¹⁹ W. H. Holmes, *op. cit.* · 320.

²⁰ *Op. cit.* · cliii.



Tajin. *a*, Sculpture beside the plaza altar east of main pyramid, *b*, Greater Ball Court, southeast panel.

that indicates relationship to the typical Tajin niche. The narrow panels contain modelled stucco, rarely preserved on the exterior of a Mexican ruin.

In the panels of the east building are stucco half columns in relief, reminiscent of Maya work in the *Puk* region of Yucatan. On our second visit in 1931 we found a local *guardiano* of the Mexican government engaged in clearing this mound, his work revealing on another side isolated niches alternating with the panel containing half-columns. The west building has a band of step-fret design, common enough in itself and appearing in rather

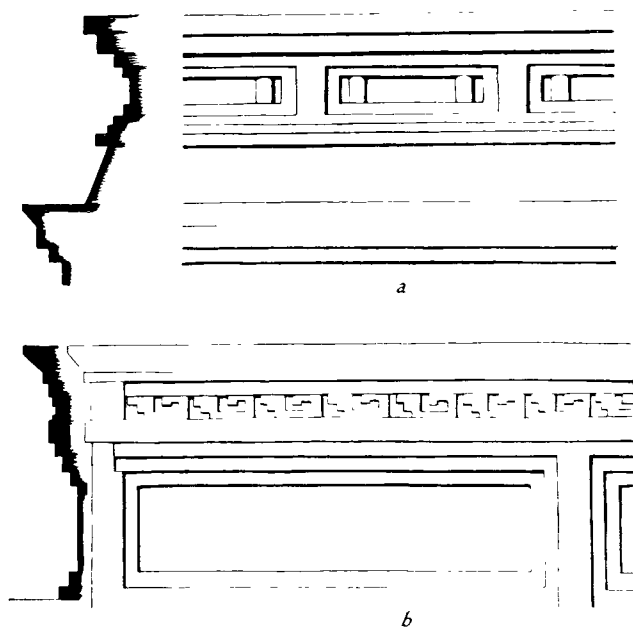


FIG. 3. Tajin Chico. Substructures having sunken panels with stucco decoration, *a*, east mound, *b*, west mound

similar position on the Iglesia at Chichen Itza, probably a thirteenth century building. A combination of step-frets and half columns decorates the base of the East Wing in the Monjas at Chichen Itza, a building somewhat earlier than the Iglesia. Long narrow panels are important in the Citadel at Teotihuacan, in the Temple of Jaguars at Chichen Itza, and at Mitla.

The east mound of Tajin Chico has upon the platform large masses of rubble apparently from walls of rooms and heavy roofs as well, but on the west mound and on a high pyramid (The Mound of the Sculptured Drums) close by there are only traces of low and narrow wall foundations. It is in-

ferred that the east mound is earlier than the other two. The substructure with vertical walls also occurs in the Misantla region²¹ and at Mapilca. Figure 4 shows comparable substructures from the Peregrinacion de los Totomihuacas,²² from the sculptured rock of Maltrata, which we visited in 1929, and from the Codex Nuttall.

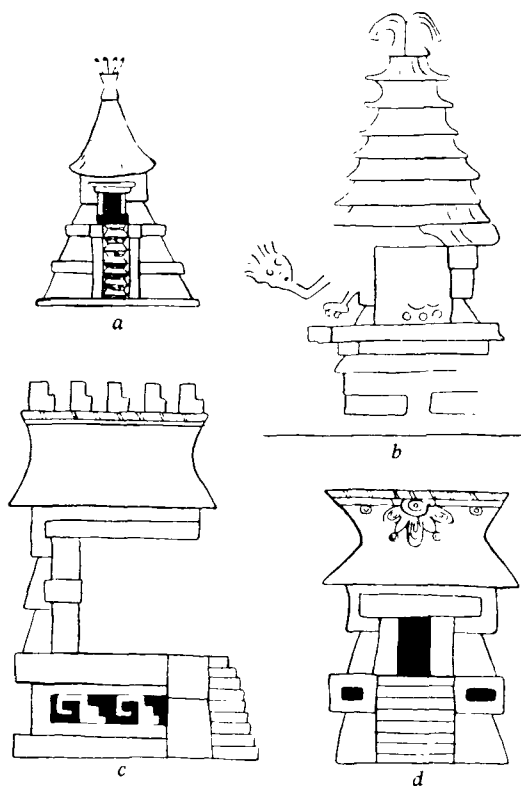


FIG. 4 Substructures with decorative panels. *a*, Peregrinacion de los Totomihuacas, *b*, Rock of Maltrata, *c*, Codex Nuttall, 50, *d*, Codex Nuttall, 21

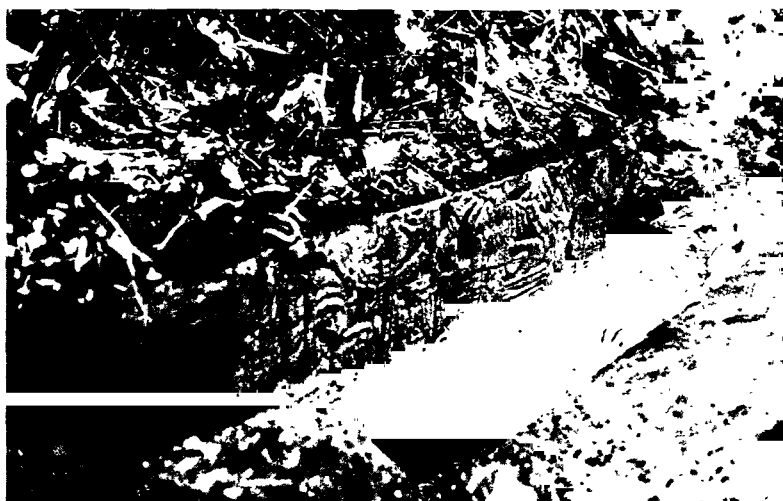
The Ball Courts. Northeast and south of the main plaza are two pairs of parallel walls, perhaps the most interesting feature of the Tajin ruin. They are oriented roughly east and west, the Lesser Ball Court 66° east of north, and the Greater Ball Court 93° east of north. The smaller eastern pair are 87 feet long. The distance between them is $17\frac{1}{2}$ feet, and they are about 3

²¹ H. Strebel, *Ruinen aus der Misantla-Gegend*.

²² Copy in the National Museum of Mexico, original in the Regional Museum of Puebla.



a



b

Tajin *a*, Greater Ball Court, southwest panel, 1931, *b*, the same as found in 1929.

feet high. A design in very low relief, displaying the characteristic Totonac double outline scroll work, runs the full 87 feet of the upper stone of both walls, and at each of the four corners develops into a terminating panel 30 inches wide and high extending over the stones below. There is also a panel at the center of the court on each side, although the one on the south is effaced. Behind the walls are earthen mounds with *débris* of painted plaster upon them, and on the outer side of the mounds there is no decoration whatever. The exactly equal length of the two mounds, and the continuous bands of decoration with panels of equal size assure us that this is a ball court. Set back slightly from the sculptured stone bench there must have been a perishable superstructure. At Yohuallichan we had come upon a similar pair of low walls, 98 feet long and 31 feet apart, and parallel walls 140 feet long were reported from Metlaltoyuca.²³ The ball court at Metlaltoyuca retained traces of paint on the plastered walls, but the walls at Yohuallichan are at present undecorated.

The ball court south of Tajin is on a larger scale and backed by high ruinous mounds, but, as in the Lesser Court, the decoration faces the courtyard and is coordinated across it. The walls are 200 feet long, $34\frac{1}{2}$ feet apart, about 7 feet high (we did not excavate them). The sculpture is confined to four panels at the corners, 6 feet, 1 inch square (pl. XII*b*, pl. XIII, figs. 6 and 7), but the blocks of stone on which the panels are carved run up to 15 feet in length. In every case the largest stone was on top, and when pushed forward by the mound fell first, succeeded by the second stone, thus hiding the remaining sculptures. This fact, combined with the heavy growth of trees and dark weather, gave us photographs only of parts of the south panels on our first visit, but in 1931 we employed a number of men and partially cleared both ball courts, replacing nearly all the stones of the Lesser Ball Court, and at the Greater Ball Court moving the huge blocks so that they could be examined (pl. XIII). The north panels had for the most part been face down and were in nearly perfect condition. We moulded both of these as well as two panels of the Lesser Ball Court. At the center of each side the wall seems to advance slightly, perhaps owing to the thrust of the ruined mound, perhaps with intention, and here a ring may have been placed.

The position of the sculptures at the base of the ball court calls to mind the Great Ball Court at Chichen Itza where the low projecting benches uncovered at the southwest and southeast corners likewise have a sculptured panel on each side of the court. According to a statement of Duran,²⁴

²³ R. Almaraz, *Mem. del Ministro del Fomento, Mexico*, 1865, p. 234, quoted in Bancroft, *Native Races*, vol. IV, *Antiquities*, p. 459.

The ball courts were enclosed with splendid walls well fashioned and with the ground inside smoothly cemented; and with many paintings of the figures of idols and demons, to whom the game was dedicated, and whom the players considered to be judges of this exercise.

Perhaps panels at the end of the long walls served to mark the boundaries of play, for we read also in Duran that if the ball entered those corners by which entrance was made, it was a fault, and that a quantity of players were on guard and eager that the ball should not enter there. Moreover, there is a story told by Sahagun that Quetzalcoatl on his flight to the coast played the ball game with his companions by means of stones placed in a square.

The cross section of the Greater Ball Court at Tajin may have been something like that of Chichen Itza. (See page 246 and figures 6 and 7 for possible representation of the ball court profile itself.) Although the mounds of ruinous stone slope back from the court, the slope is very steep and appears to have been vertical, possibly stepped, rather than sloping. Surmounting the northeast end of the court there was a temple which possibly corresponded in usage to the Temple of the Jaguars at Chichen Itza. It rises above the other part of the mound to about the height of the main pyramid. There are remains of walls of rooms, facing the main plaza north of the mound as well as looking south into the ball court. The south mound has no such striking irregularity in its outline. Both are covered with trees and undergrowth, as we have never cleared their two hundred foot length.

It is true that in these ball courts we found no rings. We have no specimens of rings from the Totonac area, although there is one at Cotaxtla a short distance south. All the leading authorities on the game in Mexico mention rings, and in the Aztec codices the rings are an important part of

²⁴ Some of the more important early authorities who describe the ball court are B de Sahagun, *op. cit.*, Bk. VIII, Ch. X, pp. 512-513, Ch. XXVIII, pp. 531-532, and Bk. II, Appendix, p. 177. D. Duran, *Historia de las Indias de Nueva España y Islas de Tierra Firme*, Mexico, 1880, 2 vols., vol. II, Ch. CI, pp. 242-246. J. de Torquemada, *op. cit.*, Bk. XIV, Ch. XII, Vol. II, pp. 552-554. H. A. Tezozomoc, *Cronica Mexicana*, annotated by Orozco y Berra, Mexico, 1878, pp. 227-229. Motolina or Toribio de Benavente, *Memoriales*, Part IV, Ch. 25, vol. XXXII of Icazbalceta's *Coleccion de Manuscritos relativos a la Historia de America*, published by L. Garcia Pimentel, Mexico, 1903. A. de Zorita, *Historia de la Nueva España*, *Coleccion de libros y documentos referentes a la historia de America*, vol. IX, edit. M. Serrano y Sanz, Madrid, 1909, Ch. XXVI, pp. 307-310. Zorita follows the account of Toribio de Benavente with omissions. There is much similarity in the accounts given by Torquemada and Herrera, *Historia general*, Decade II, Bk. VII, Ch. VIII. Translations of Herrera's description of the ball game are given by J. L. Stephens, *Incidents of Travel in Yucatan*, New York, 1843, vol. II, pp. 305-307 and A. C. Maudslay and A. P. Maudslay, *A Glimpse at Guatemala*, London, 1899, pp. 205-206.

representations of the ball court, although they often do not appear in the hieroglyphic form. The codices of the south and east of Mexico sometimes show the rings of the ball court and sometimes not. It is very probable that the game differed in different localities, as Clavijero²⁵ surmised from the pictures he had seen. A case for ball courts with movable rings has been made by Blom²⁶ who depends in part on the ball game at Xibalba in the Popul Vuh in which the players brought with them their implements, including rings. The recent translation of the Popul Vuh by Villacorta and Rodas differs on this point from that of Brasseur de Bourbourg, putting *lances* in place of *rings*. According to Lothrop,²⁷

The ball games described in the Popul Vuh . . . evidently were played on a court edged by houses, for one incident hinges on the ball being lodged on a molding.

The importance of the ball game in the Popul Vuh is evidence that in spite of the absence of rings the courts of the Guatemalan highlands are correctly identified with this game. They are found in ruins which have many archaeological features in common with Totonac and Olmec cities in Vera Cruz.

Blom describes the ball courts which he visited in Guatemala and Chiapas as having projecting benches at the base and a sloping, not vertical upper section, and describes them as an Old Empire type with a leading example at Yaxchilan. It was Maler who first reported a ball court at Yaxchilan,²⁸ and Lothrop and Blom have found reason to agree with his identification. Morley²⁹ also finds ball courts in cities of the Old Empire. He describes circular markers of cut stone dividing ball courts horizontally and longitudinally at Yaxchilan and Piedras Negras, and considers that the circular altars from Rio Grande or Lubaantun had a similar purpose. There is evidence for this division lengthwise as well as crosswise in many of the pictures of the Mexican codices. On markers within the court we have the statement of Sahagun that a line divided the field in the center, and that of Duran,

²⁵ F. J. Clavijero, *Historia antigua de Mejiico*. Translated from the Italian by F. P. Vazquez, 1853, pp. 178-179.

²⁶ F. Blom, Preliminary Notes on Two Important Maya Finds, 23rd Congress Americanists, 1928, New York, 1930, pp. 165-171.

²⁷ S. K. Lothrop, The Museum Central American Expedition, 1925-1926. *Indian Notes*, 1927, vol. 4, no. 1, pp. 12-33; p. 26.

²⁸ Researches in the Central Portion of the Usumatcintla Valley, Peabody Museum Memoirs, vol. II, no. 2, pl. XXXIX, p. 134, Cambridge. 1903

²⁹ Report of the Yaxchilan Expedition in Year Book No. 30 of the Carnegie Institution, 1930-31, pp. 136-137.

Those stones (the rings) served as a boundary line since on the ground ahead of them there was a black or green line made with a certain herb.

Duran also gives the interesting detail of the game that the stone of one part served one band for the entry of the ball, and the stone of the other part served the other band. This suggests that the principal play and defense was crosswise rather than lengthwise of the court. It also appears from Duran's account that the ball passed into play from the middle line, and that the principal players placed themselves near the centre, so as to face the ball and their opponents.

Ball courts at Yaxchilan and Piedras Negras might possibly have been constructed in the re-use of these ancient ceremonial centers of the Usumacinta valley by neighboring peoples on the Guatemalan highlands. This could have happened as late as the Second Empire, a dating made more likely by certain *grafitti* and pottery finds. While ball courts probably existed in the Old Empire, they were comparatively unimportant, with no such elaboration as at Chichen Itza and Tajin. Nor have they been recognized in the Maya Codices. A profile similar to that described for ball courts by Blom and Morley was noted at Coba by Thompson and Pollock.³⁰ There a tenoned ring was placed near the top of an upper zone which sloped back about six metres from the bench bordering the court.

The difference in size of the ball courts at Tajin has precedence in the varied size of the ball courts at Chichen Itza, for instance, and is supported not only by archaeological evidence, but by the descriptions of the early writers. Sahagun gave the dimensions as 40 or 50 feet in length, 20 or 30 feet in width, and about 9 feet in height. Zorita and Torquemada said they might be 20 yards in length, or less, and Duran declared the length varied from 100 to 150 to 200 feet. The proportion of length to width is not governed by any set rule, nor is there conformity in orientation either within Vera Cruz or Yucatan, or between the two. It was Seler's opinion,³¹ based on the ball courts which he observed in Guatemala and also on those reported by Sapper in Salvador, that ball courts were oriented north and south. He found confirmation in the division of the courts of the Mexican codices into dark (northern) and light (southern) halves, and also into four parts for the four points of the compass. Yet even in the same codex the method of coloring is not uniform. Seler admitted that a north and south

³⁰ Thompson, Pollock and Charlott, A Preliminary Study of the Ruins of Co' a Quintana Roo, Carnegie Institution of Washington, March, 1932; figs. 17, 18, 19, pp. 47-49.

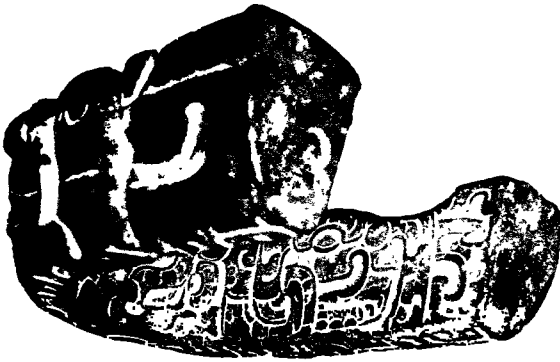
³¹ Einiges über die natürlichen Grundlagen mexikanischer Mythen, *Ces. Abh.*, vol. III, 1908, pp. 305-351, p. 309, and *Die alten Ansiedlungen von Chacala im Distrikte Nenton des Departements Huehuetenango der Republik Guatemala*, Berlin, 1901, pp. 27, 30, 57, 97.



a

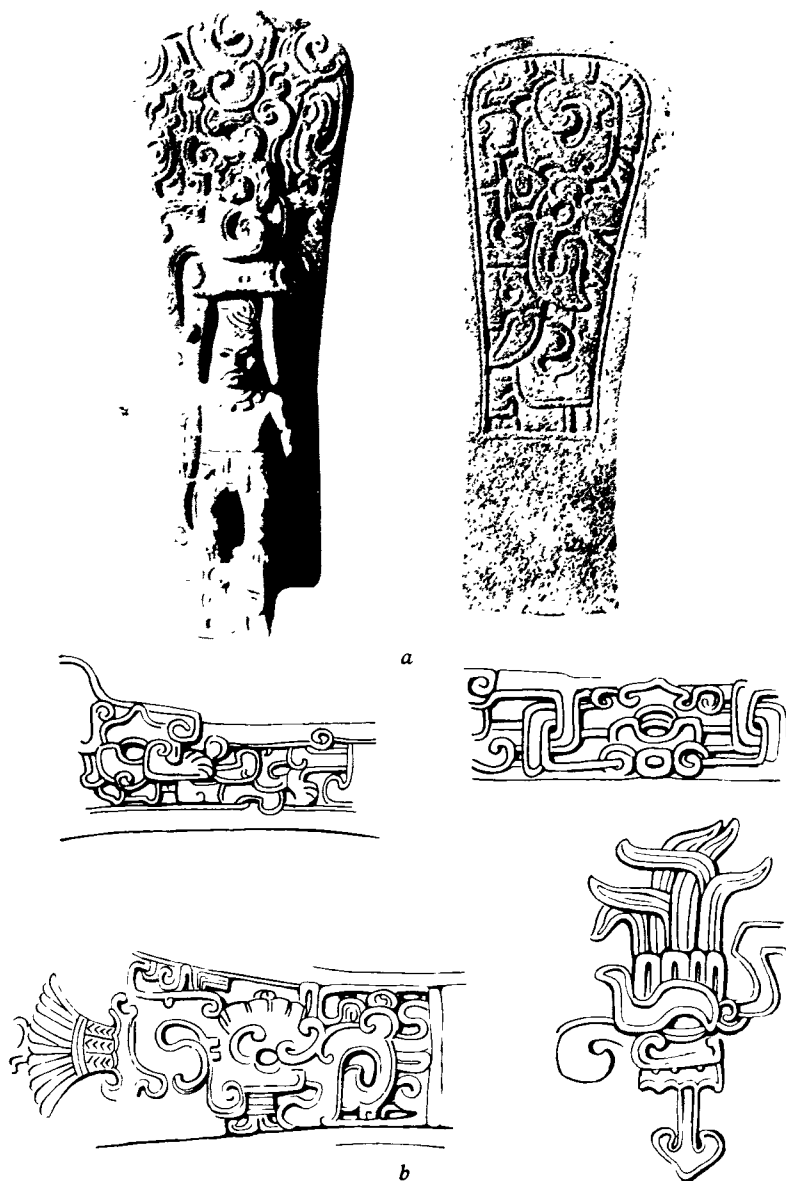


b



c

Three views of stone yoke presented to the National Museum of Mexico by citizens of Metlaltoyuca.



a, Palmate stone, obverse with spiral shell in scroll work, reverse with grotesque face, National Museum of Mexico; *b*, comparison of motives on palmate stones in National Museum of Mexico (left) and Tajin sculptures (right).

orientation did not agree with the theory that the ball ground represented the movement of the sun with the seasons from the northern to the southern sky, nor does it support the comparison of the ball ground to the Ollin sign, or the course of the sun from east to west in a single day. The Citlaltlactli or Ball Court Constellation as represented in Sahagun and elsewhere was probably identified after, rather than before, the invention of the game.

The terminal temples of the ball court are not always in evidence either in Yucatan or Mexico. Torquemada states that the end walls were lower than the walls of the sides. At Sayil in the southern part of the city, we observed a ball court with a ground plan similar to that of the ball courts in the Aztec codices, but with a terminal structure outlined by a wall hardly a foot high. It seems that the function of the terminal temples was to provide a table for performing the ceremonies preceding the game,³² and a place to keep the stakes, as shown in an illustration of Duran³³ where in one end of the ball court are placed feathers, and in the other jade beads.

At Tajin terminal temples of the accepted shape are not in evidence, though their foundations may yet be uncovered, but there are structures rather near to the west end of both courts. West of the Lesser Ball Court there is another mound at an angle to the court, and west of the Greater Ball Court, though also at an angle to it, Dr. Spinden discovered in 1931 the walls and lintel of a small but massive stone building. Roof ornaments in the shape of stepped pyramids are lying close by.

In summary of the architectural evidence, the ruins of Tajin and several other sites of the northern Totonac area may be aligned with the period of Toltec expansion which strongly affected Mexico, Yucatan and Guatemala. The determining factors include—1, pyramids with battered terrace walls; 2, rectangular substructures with vertical bases of one or more terraces; 3, buttress balustrades; 4, plaza altars; 5, decorative sunken panels; 6, elaborate ball courts—and taken as a whole, place the northern Totonac ruins in the 12th to 14th centuries. The ruins of the Misantla region may have a somewhat later beginning, and Cempoalla, foremost Totonac City in Cortez' time, represents a decline of Totonac power in the century and a half preceding the conquest.

SCULPTURE

Minor Art. The architectural sculptures uncovered at Tajin strengthen the case for the identity of the Tajin culture with that of the palmate stones. Although yokes occur in southern Vera Cruz, occasionally on the highlands

³² D. Charnay, *Les anciennes villes du nouveau monde*, Paris, 1885, p. 73, p. 86.

³³ *Op. cit.*, Tratado 2, Lamina 11a.

of southern Mexico, and southward in Guatemala and Salvador along the trail of the Olmeca, the greater number have been recovered in the ancient Totonacapan. The fine yoke of plate XIV was given to the Mexican National Museum by the citizens of Metlatoyuca, Puebla, thus hailing from a Totonac ruin explored a century ago. It combines the frog form and the double outline design at its best, and serves to center the finest development of the yokes among the Totonacs both by its provenience and by the resemblance in technique to the Tajin sculptures. Not only details of design, but the quality of line, connect it as regards time with the famous tattooed head of Uxmal, also in serpent's jaws.

Plate XVb further illustrates the relationship of minor objects to Tajin sculptures, contrasting serpent heads from Tajin with designs from two well-known palmate stones of the Dehesa collection now in the National Museum of Mexico. The conventionalized decoration is devoted principally to the serpent motive derived from Maya religion, which in the course of time acquired separate individuality at the hands of the Totonac artists. A considerable history for this art, perhaps in wood carving, is also indicated by the flamboyancy of many palmate stones (pl. XV, lower left).

The characteristic Totonac serpent has a feathered eyebrow like the Maya, the eyelid is usually marked, the jaws open nearly at a right angle. On palmate stones of the type pictured in plate XVa, he forms a background in low relief from which human and animal subjects emerge in high relief or nearly in the round. The costumes of human beings who appear under his protection also have a grouping of familiar details, some of them characteristically Totonac. The rather short vertical headdress appearing on certain palmates and in the Tajin sculptures (pl. XIIb and XIII) is worthy of note, and resembles the mosaic headdresses of certain Toltec figures in the Jaguar Temple at Chichen Itza. Sacrificial victims represented on palmate stones stand on temple platforms with balustrade buttresses like those in Totonac ruins. Subject matter of the palmate stones is often close to the Toltec and early Aztec, with speech scrolls, for instance, and the palmate stone of plate XVa includes in the serpentine background for the main figure the cross section of a shell usually associated with Quetzalcoatl.

Conventionalized Totonac design does not always decorate the palmate stones. Many are formed by the body of an animal, often a bird, on the triangular base that characterizes this type of specimen. In the Jalapa region the simpler variety is especially numerous.

It is there, too, and in the territory between the Actopan and Papaloapam rivers that there are numerous transitional types in which the palmate stone appears to swing through 180 degrees, emerging as the thin head of

the Olmeca. The thin head is Totonac in feeling, but developed specimens are usually from southern Vera Cruz or Guatemala. Historically it is probable that from a figure in the round on a triangular base two types were developed: one flattened frontally—the Totonac palmate stone, the other flattened laterally, losing its base and acquiring a tenon at the back. Seler³⁴ speaks of the latter type as “laterally compressed heads.” It may be that there is a thin head of transitional type represented in the northwest panel of the Greater Ball Court at Tajin, on the belt of the left one of the two principal figures (fig. 7). From the Tuxtla region³⁵ there is a more pronounced thin head at the front of the belt. The most slender and beautiful Olmec thin heads may have been carried on standards in ceremonies.

Reptilian Motive Comparative material for study of the yokes and palmate stones is made more abundant by the sculptures recently brought to light at Tajin. The preponderant subject continues to be the conventionalized reptilian design, and its purpose and meaning come under consideration. To the serpentine body varied attributes are added. On the main pyramid these are frequently human, with noseplugs, arms, manikins. At the Lesser Ball Court there is a suggestion of the frog type found on the yokes^{35a} and plumes add to the multiplicity of the zoological scrolls. The Greater Ball Court has skeletons surrounded by a plumed serpent border. A superficial glance at stone yokes invariably calls to mind the altars of Copan and Quirigua with their symbols of death and binding knots, and with their reptilian Double Headed Dragon, more lately identified as a Venus Monster.³⁶

While there can be no immediate relation, I believe that the same group of ideas which finds expression in the Long Nosed God of the Mayas is represented by the Totonac serpent. Two primary associations make themselves felt—one with death and the underworld which is borne out by the resemblance of yokes to “earth bowls” and graves—the other with life and seasonal rains, supported by the presence of frog and plumed serpent. Another phase may refer to Venus. At Palenque the Venus Monster is pictured with a band of astronomical symbols, prominent among them the generalized sky sign. At Chichen Itza the band of astronomical symbols on

³⁴ Die Teotihuacan-Kultur des Hochlandes von Mexico, Ges. Abh., vol. V, 1915, pp. 405–585, figs. 213–225.

³⁵ Caecilie Seler-Sachs, Alterthümer des Canton Tuxtla, Seler Festschrift, 1922, pp. 543–556, fig. 31.

^{35a} F. Parry, The Sacred Maya Stone of Mexico and its Symbolism, London, 1893.

³⁶ H. J. Spinden, A Study of Maya Art, PM-M, vol. VI, 1913, p. 66 ff., and Maya Inscriptions Dealing with Venus and the Moon, Buffalo Soc. of Nat. Sci., 1928, vol. XIV, no. 1.

the east wing of the Monjas figures particularly Venus and sky symbols, while at Tajin below the serpent border on the northwest panel of the Greater Ball Court appears this same sky sign, an interlaced diagonal cross (fig. 7).

Lesser Ball Court. The band of carving 8 inches wide, running the entire 87 feet of the Small Ball Court, is devoted to the plumed serpent, treated more simply and with less conventionalization than elsewhere at Tajin, but with great variety. Above the panels at the four corners the band ends in a grotesque monster. This creature, though differing slightly in each case, is always a compound of serpent, bird, and human being, perhaps an Old Empire symbol infused with new meaning. It is pictured in figure 5, where comparison is made with a dragon-bird who appears at Chichen Itza in the Ball Court Temple and other buildings of the Toltec period. While at Chichen Itza a human head is inclosed in animal jaws, and feathers and claws are animal in character, at Tajin we have rather a humanized animal.

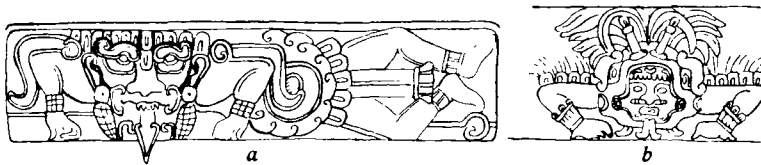


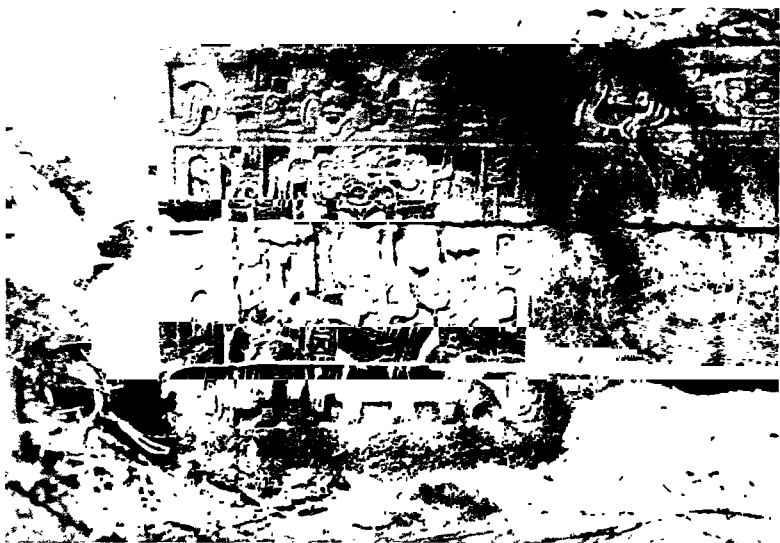
FIG. 5. Grotesque monster *a*, Tajin, Lesser Ball Court, southeast panel, *b*, Chichen Itza, Temple of the Jaguars (after Maudslay).

Divisions of subject in the continuous design are effected by interlaced tails;—there are examples in plate XVI just beyond the terminal panels. At the north center a panel of two small intertwined snakes extends over the lower stones, and at each side of this a serpent's body is covered by shields with crossed arrows (fig. 2). The corresponding panel on the south is effaced. Elsewhere in this decorative band are other arrows, and in one case an eye pierced by an arrow, indicating death or sacrifice. While sacrifice is not as prominent as in the Greater Ball Court, which was very likely considered a *teotlachtli* or ball court of the gods, figuring the life-sacrificing ceremonies which they demanded, the arrows of the lesser *tlachtli* remind us that the leaders of the Totonacs who played there were also warriors.

The narrow continuous band seldom repeats a detail exactly. Fixed to the sinuous bodies there are occasionally human heads, one with rings around the eye, and grotesque heads that resemble the plumed monster at the corners. There is one frog-like front-view face which has a companion in the Codex Laud. It also resembles the frog-type of yokes, or in nature *Bufo marinus*, the water toad, who symbolized rain to the ancient Mexi-



a



b

Tajin. Lesser Ball Court. *a*, southwest panel, *b*, northwest panel.

cans. The importance of this creature, as well as of the serpent to the Aztecs is made clear in the festival of *Atamalqualiztli* which occurred every eight years and dealt with the renewal of the food supply, and possibly also with a recurrent phase of the planet Venus. The ceremony began with a dance in honor of Tlaloc in which the dancers are described and pictured holding frogs and snakes in their mouths, from which Fewkes³⁷ deduced that it was a prototype of the Hopi snake dance. The gods appearing in Sahagun's picture of this ceremony have been identified by Seler, and some are gods elsewhere shown in connection with the ball ground—Macuilxochitl, Xilonen, Chalchiuhtlicue, Ixtlilton, Xochiquetzal, Tezcatlipoca and Ciacoatl. It is quite possible that a ball game and also a new-fire ceremony were celebrated during the festival.

The top stone of the southeast panel (fig. 5) lay face down on the ground and owing to its fine condition was moulded, but the rest of the panel is badly flaked off and worn. A figure seated on a bench much like that of plate XVI*b* seems to be surrounded by guardian serpents. This and the northeast panel are the only ones of the eight corner panels representing a single figure instead of two or more. In the northeast panel there is a seated human or divine figure wearing a shield on his right arm and in his left hand holding some object, perhaps part of his necklace. Two small intertwined serpents, one with braided markings, rise between his feet and have a head over each knee. Twin serpents twisted like this, though not braided, are shown in the *Codex Fejérváry-Mayer* 27 and 28, lower half. In studying these sculptures, closer comparisons have been possible with the *Fejérváry-Mayer* and *Laud* codices than with the *Vienna* group, which are sometimes attributed to the Zapotec area and sometimes to Cuertlaxtlan. There is a contrast in drawing between these two groups of codices that is paralleled in the contrast between sculptural art of Oaxaca and Vera Cruz.

In his article on *Warrior Cults of the Toltecs*³⁸ Dr. Spinden has shown that the southwest and northwest panels of the Lesser Ball Court (pl. XVI*a* and *b*), as well as the southwest panel of the Greater Ball Court (pl. XII), represent humanized eagles and also eagle men receiving tribute of jade beads in ceremonies of the warrior societies. The beads fall over the forehead and in one case actually into his jaws. He compares the latter to a similar subject drawn in the *Codex Laud* in which strings of beads are held jointly in the mouth by eagles and by men and women. The same theme

³⁷ A Central American Ceremony which Suggests the Snake Dance of the Tusayan Villagers, *AA VI*, no. 3, 1893, p. 285 ff.

³⁸ Presented at the Hamburg Congress of Americanists in 1930 and partly published in *Indian Symbolism, The Exposition of Indian Tribal Arts, Inc.*, New York, 1931.

occurs on stone discs, shell gorgets, copper plates, and pottery in the Mound Area. Eagle men in various stages of humanization are there represented with beads hanging down in front of the face. Dr. Spinden thus established an archaeological connection, once postulated but not proved by Fewkes, with evidence that is striking. A subject religiously important and artistically complex cannot be denied force in dating the objects of the two areas.

The northwest panel of the Lesser Ball Court pictures, at the left, a man with decorated staff in his left hand and in his right a circular object which looks like a shield but which, because of the way in which it is carried, may be a fan. In the *Codex Colombino*, p. 11, four merchants with fan and staff are placed around a ball court. This person may therefore be a merchant rather than a warrior. He wears a peculiar half-concealing mask. The eagle man whom he faces is seated on a bench and holds an elaborate pouch. He has a small circular breast plate, possibly meant to be of gold. Both these figures have long pendants from their earplugs instead of the single or double discs which are more common at Tajin. The eagle man is probably a human being wearing a mask, since the human nose appears in the open bird mouth. Nevertheless, tribute of beads hangs over his forehead, apparently from the plumed serpent above. The monster in the panel overhead varies somewhat from the other terminal figures in lacking legs and the circular development of feathered body, while his arms are raised in the position of an atlantid.

A mould was made of the southwest panel, where unfortunately the faces of two of the three figures are flaked off. In the center is the eagle man, having wing-like arms and a real eagle head seizing a heart in the beak. The beads come from above his head and fall into his right hand. On one side of him is a woman with long fringed skirt and serpent headdress, and since she stands with one foot in the water that is represented in the lower part of the panel, she may be Chalchiuhtlicue. She faces the eagle and the man behind him, and like the other less important figure, she holds a slender wand, partly effaced.

Greater Ball Court. At the Greater Ball Court³⁹ (pl. XIIb, pl. XIII, figs. 6 and 7) the constant element, in addition to the conventionalized serpent design covering the upper and much of the lower stones, is a skeleton at the inner side of each panel that rises from a bowl resting in water. It has a

³⁹ In *An Archeological Junket in Yucatan*, Brooklyn Museum Quarterly, 1931, vol. XVII, no. 4, pp. 133-138, Dr. Spinden has pictured the southwest panel of the Greater Ball Court and a cast of the northeast panel. He describes briefly the findings and work of our second expedition to Tajin.

fleshy hand and plumes emerge from the skull. The four skeletons differ slightly just as the grotesque monsters do in the Lesser Ball Court. The bowls from which the figures rise may refer to urn burial. Strebel⁴⁰ found instances of this practice, and one of his urns has the same shape as the bowls pictured in these panels. The water in the lower part of the panels may refer to Chiconauapan, the nine rivers of Aztec mythology through which the dead have to pass. But there are other more important associations of the ball court with water.

Ball courts are pictured with water in the Codex Colombino, pages 1 and 6, and in the Codex Borbonicus. Tezozomoc⁴¹ relates a legend of the founding of Coatepec which is essentially an Aztec creation myth with the world fashioned at the ball court. It may explain the representation of water in the ball court sculptures, and may also account for the probably baseless statement of Veytia and other of the later writers that there was a hole containing water in the center of the ball court. The Mexicans built the ball court of Huitzilopochtli near his temple "like an altar of great cut stones," fastening stone rings in the wall, the hole in these goal pieces being called "the well of water." Tezozomoc continues:

Therein they threw water as a sign, by command of the god Huitzilopochtli. And this same god Huitzilopochtli spoke to the Mexicans who did not see him nor understand what he said: "Listen Mexicans, already this is finished and the finished well is full of water. Now sow and plant willows, cypress trees, reeds, cane brakes, bull rushes and white and yellow flowers that grow in the earth itself. And in the river which they find there multiply many kinds of fish, frogs . . . In the place of song, dance with me, and sing my song that is called *cuilxoteyotl* and *tecuilhucicatl*."⁴²

Tezozomoc's association of the ball court with the origin of vegetable and animal life receives support from Duran:

Wild palms were planted at the ball court or some trees with red beans from the . . . wood of which they now make images.^{42a}

And Duran declares that before burning incense and making offerings to the ball and other tools of the game,

⁴⁰ Alt-Mexiko, vol. II, pl. XXII, fig. 15.

⁴¹ *Op. cit.*

⁴² The *cuilxoteyotl* may be the *tlaxotecuyotl* mentioned by Sahagun as chanted at the festival of Huitzilopochtli, and also the same Song of Huitzilopochtli that Brinton translates in the *Rig Veda Americanus* (Brinton's Library of Aboriginal American Literature, VIII, Philadelphia, 1890) and Selser in *Die religiösen Gesänge der alten Mexikaner* (Ges. Abh., vol. II, 1904, pp. 959-1107).

^{42a} *Op. cit.*, p. 243, p. 245.

They invoked the hills, the rains, the fountains, the canyons, the trees, the wild animals, the serpents, the sun, moon and stars, the storms and finally all created things and the gods belonging to each one . . .

Surely these prayers are sufficiently comprehensive even for the site of the creation of the earth.

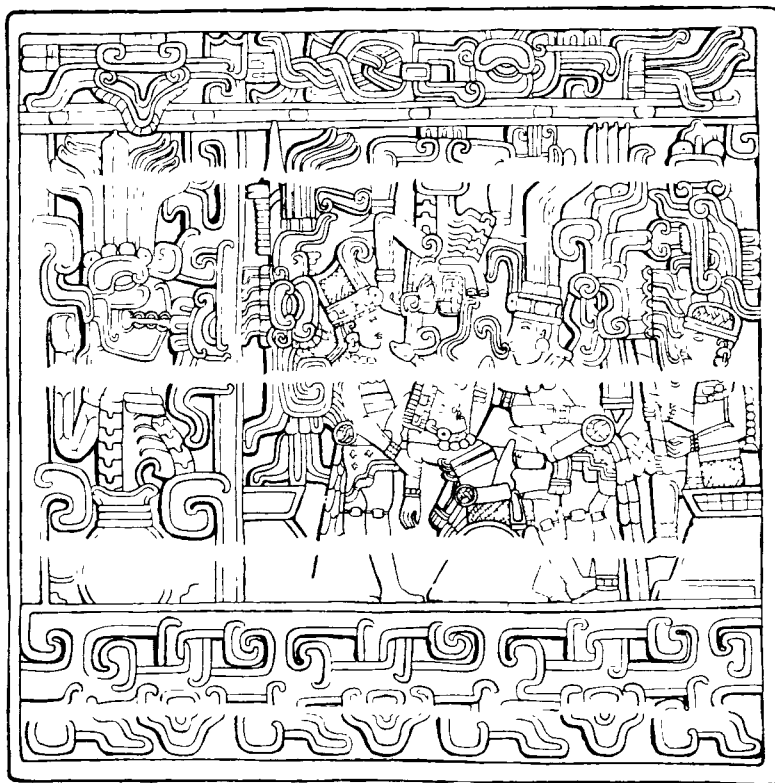


FIG. 6 Tajin Greater Ball Court, northeast panel, drawn from cast in Brooklyn Museum and photographs, lowest stone reconstructed

All the sculptured panels of the Greater Ball Court have three elements that are constant, though slightly varied. There is a section on the inner side with a skeleton, urn, and rivulets of water; there is a zone at the top consisting of plumed serpent scroll work combined with what may be a star symbol in two instances; and at the base of each sculpture is a band of serpent scroll work on which stand the figures in the principal scene. In the southern panels these serpents are plumed, or tufted, and the serpentine

design includes elements like those on serpent bodies at Xochicalco. On the northern panels this lower portion, somewhat less rich in detail, is continued on a fifth stone which we did not uncover, although reconstructing it on the casts.

THE SOUTHEAST PANEL (pl. XII*b*) is the most worn of these sculptures in the Greater Ball Court. The central figure stands between two who are seated upon folds of the serpentine background. The two on the right are somewhat larger, and are placed higher than the one on the left who may be a young warrior initiate facing the gods or their priestly representatives. Whenever the back of the head is unobscured by hair or headdress, as is the case with the man in the centre of this panel, the people at Tajin display the artificially flattened head assigned to the Totonacs by Sahagun and observed in two skulls from Cerro Montoso.⁴³ At Tajin the deformation is vertical occipital, and the head does not tilt backward to a peak as in the Maya deformation found in extreme form at Palenque.

The central figure holds a pouch with a face upon it. The one at the left has a bundle of spears. The third personage is distinguished by a headdress apparently of hair, like one on a palmate stone published by Krickeberg.⁴⁴ This turban recalls the headgear of yarn and hair worn by some of the Totonac women today. It is just possible that this partly effaced figure is a woman. If so, it may represent Xochiquetzal, a patroness of weaving, shown with a spindle in her hair beside the ball court in the Codices Aubin and Borbonicus. In the Vienna Codex there are several dated repetitions of a group of symbols which includes the ball court, and close to it a rubber ball and a spindle. Unfortunately this person at Tajin does not have the long skirt of a female, and does have something very like an atlatl in the left hand.

THE SOUTHWEST PANEL of the Greater Ball Court (pl. XIII), as has already been said, is comparable to the southwest panel of the Lesser Ball Court in its subject. In 1929 before the third stone had been replaced, the figure with outstretched wings was mistaken for a turkey, and the recumbent figure below for a sacrifice. The bird figure is clearly enough an eagle, and the scene may be considered a ceremony of initiation of a youth into one of the Warrior Societies. The men standing on either side are holding musical instruments, probably a rattle and a drum of tortoise shell. In the upper left of the scene, poised above the eagle's wing, are the diminutive bony legs of a human figure which is not finished, unless it merges into the conventionalized serpent of the topmost stone.

⁴³ Strebel, *Alt-Mexiko*, vol. I, p. 101.

⁴⁴ *Op. cit.*, fig. 28.

The scenes of the southwest panels may be definitely associated with the warrior cults of the Toltecs, perhaps also the figures with eagle and jaguar or coyote masks in the northwest panels. In the codices both eagle and jaguar warriors are figured beside the ball courts as if contestants. The eagle appears most often. There are numerous examples in the Vienna Codex, and a few in the Codex Nuttall, of eagles pictured behind or combined with ball courts, and a similar idea is illustrated in the Codex Borgia 36. The eagle was sacred not only to the eagle society but to the sun to whom the warriors paid homage, and to their companions in the Mexican Heaven at the sun, the women who died in childbirth. These were subject to Ciuacoatl, mother of the gods, who is invoked as an eagle in one of the hymns sung "in honor of the gods, within the temples and outside of them." (See page 255 and note 42. Brinton and Seler alike confirm this identification in song XIII.) Ciuacoatl is pictured on the ball court of the Codex Borbonicus 27*a* wearing a skirt of eagle feathers. The eagle of the ball court scene at Tajin may symbolize a similar female deity, whom Mendieta⁴⁵ describes as the principal goddess of the Totonacs. Before the invasion of highland culture, she is said to have received no human sacrifice. Krickeberg⁴⁶ states that she was representative of the sun god on earth and was mother of the morning star god who corresponds to Centeotl. Elsewhere in Mexican myth we find Centeotl interchangeable with Xochipilli (p. 255). The eagle man and eagle woman of the Codex Laud are pictured with beads in their jaws, the necklace according to Sahagun being symbolic of children. The Aztec child was dedicated to the Warrior Society as early as the ceremony of baptism⁴⁷ with the words:

Your duty is to make glad the sun and the earth by giving them to drink and to eat. Your lot is that of the warriors, eagles and tigers who have died in war and who rejoice today, singing before the sun.

A ball court ring in the Mexican National Museum is ornamented with an eagle, while the ring of Cotastla carries a sun disc. But ball court rings have many subjects. According to Duran the monkey sacred to Xochipilli was the proper design for a ball court ring. At Chichen Itza there are serpents and eyes or stars, as on the upper stones of the Tajin panels. The

⁴⁵ *Historia eclesiastica Indiana*, obra escrita a fines del siglo XVI. Published by J. G. Icazbalceta, 1870, Bk. II, Ch. IX, p. 89. Also B. de Las Casas, *Apologetica Historia de las Indias*, Nueva Biblioteca de autores espanoles, Historiadores de las Indias, vol. I, edit. M. Serrano y Sanz, Madrid, 1909, Ch. 121, pp. 324-326, Ch. 175, pp. 459-462, Ch. 176, pp. 462-465.

⁴⁶ *Op cit.*, vol. IX, pp. 4-5.

⁴⁷ Sahagun, *op cit.*, p. 457.

dated ball court ring of Uxmal has the day Ix which corresponds to Ocelotl or jaguar of the Mexican calendar.

The jaguar motive is prominent in the Great Ball Court at Chichen Itza. The shields alternating with jaguars in the frieze of the Temple of the Tigers probably relate directly to the jaguar society. Charnay noted many years ago that the picturing of jaguars in this temple possibly commemorated the story of the ball game between Quetzalcoatl and Tezcatlipoca, and (according to his interpretation of Torquemada) the magical transformation of Quetzalcoatl into a jaguar. He considered that turning into a jaguar was equivalent to winning the game by sending the ball through the ring.

In the lower chamber of this same Temple of the Tigers at the top of the sculptured and painted ceremonial scene is a god seated on a jaguar throne within a sun disc, while below is a godlike figure with gold mask and shield and with plumed serpent for guardian. Here I think a dual symbolism of the ball court is implied; namely, sun and rain, drought and harvest, war and peace, death and life. This scene has been interpreted as the celebration of a conquest, and there is a battle represented in the fresco of the temple above, but the spirit of Room E is not martial. There are weapons, but many are of Old Empire form, and they are the panoply of ceremony. The floral panel at the base of the sculpture, with manikins that are personified aspects of nature, appeals to the benevolent gods.

The panels at Tajin may represent a series of ceremonial events. If one begins at the southeast with the scene of presentation of the young warrior, and proceeds clockwise or with the sun, there is next the dedication of the initiate to the eagle, then the ceremonial fire, and last on the northeast is the sacrifice. The initiate and the victim have similar ornaments at the front of their headgear, but their costumes vary in other details.

THE NORTHWEST PANEL appears to represent a New Fire Ceremony performed at the ball court. There are two central figures, one holding the sacrificial knife, the other with arms folded in submissive attitude. They confront each other with speech scrolls between them. At their feet is the ball, shown, however, as a disc with a slightly sunken center, as in the Codex Laud. Above the ball are two curved objects that are difficult to identify, their meaning concealed by the rigid medium of stone. Beyond a bead-like band the intertwined curves end in something resembling a wide fringe—perhaps it is leather or textile, similar to the red and white objects hanging through the ball court ring in the Codex Nuttall 74, to others in the Codex Borgia 41, and to the loop held by the player in the Fejérváry-Mayer 29.

The structures appearing in this and the northeast panel may be a cross section of the ball court, and the two figures on the left who wear no skirts

may be players. The attendant figure at the left wears a round cap, as does the least important person in the background or on the ball court terrace of the northeast panel. In his left hand the former holds a staff, possibly a club, as do several players in the *Codex Borgia*. In his right hand is possibly a *manopla*, an object of stone which occurs in rather considerable numbers in archaeological collections from Vera Cruz. Fewkes speaks of it as a stone

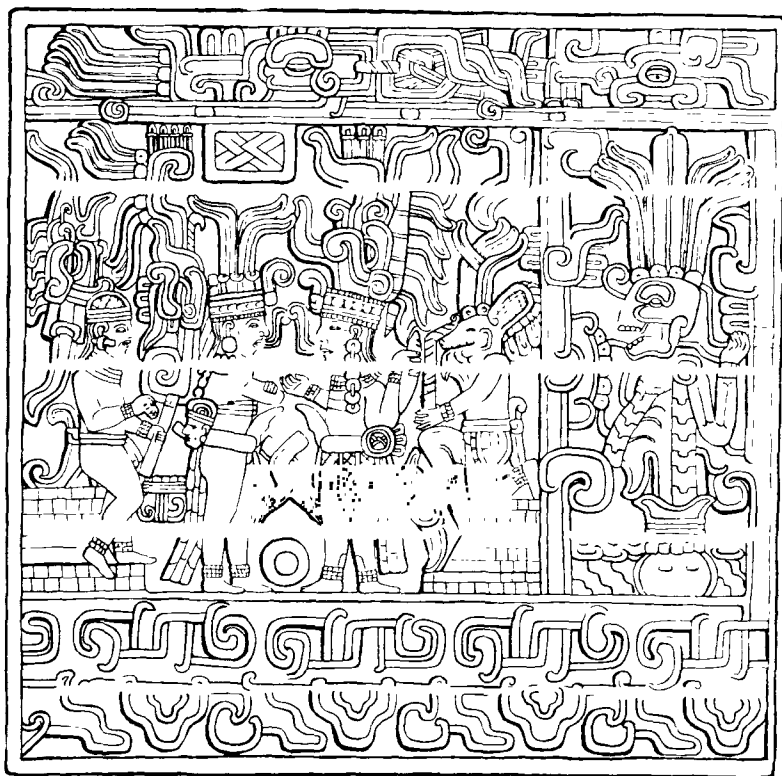


FIG. 7. Tajin Greater Ball Court, northwest panel, drawn from cast in Brooklyn Museum and photographs; lowest stone reconstructed

sling or weapon, but Strebel considers that it was held in the dance like the modern wood *manopla* observed in use in dances in Vera Cruz some fifty years ago.

At the right of the panel is a god with the head of a coyote, dog, or jaguar. The functions of these animals in Mexican and Maya fable were related if not interchangeable, but the identification in this case is not easy. The spotted markings of the jaguar or of the Maya dog are absent, the ear

is characteristic of neither, the animal seems too fine to be a dog, and one wonders why the coyote should be chosen for representation since the mountains of Vera Cruz are said to abound in jaguars even today. Possibly the jaguar was more common in Totonacapan than in Yucatan, and less sacred. Among the warrior societies there was a coyote order as well as the orders of jaguars and eagles. Pertinent to the identification of this animal is the statement of Vetancurt⁴⁸ that among the Totonacs were monks who wore the skins of foxes and other animals, and were "dedicated to the services of Ceres, whom they call Centeotl, in order to ask her for temporal goods."

Perhaps the animal-headed priest or deity of the panel at Tajin is the same mythological figure who appears in the Dresden Codex (p. 40b) darting from heaven with a torch in his hand and with the kan sign on his head. Seler⁴⁹ considers that the dog shares the rôle of lightning beast with two other creatures in the codices, the tapir, and the jaguar, who appears with the hieroglyphs jaguar and kan, meaning corn or yellow. The root xolo, yellow in Zapotec, occurs in both the words for dog and tapir, and according to Seler, it is repeated in Aztec in the name of the god Xolotl, who is represented as a dog. Xolotl is said also to mean the cakes of small seeds eaten in the festival of Atamalqualiztli and in the annual Maya new fire ceremony described by Landa.

Now the coyote or dog who appears six times in the Fejérváry-Mayer and is spoken of by Seler as "the demon," but also identified as Xolotl, corresponds to the lightning-beast of the Maya codices and appears also in the Codex Laud on the ball court. Here, as in the Codex Fejérváry-Mayer, his gray and yellow fur marks him as a coyote. In the Vienna Codex, page 18, the figure painted blue, with the head and distinctive ear of the dog, shown making fire, is named by Lehmann⁵⁰ as Xolotl. Without plunging too far into the maze of Mexican myth, we can see that the Totonacs shared with their Mexican and Maya neighbors the belief in a god who was associated with a beast of prey and dealt thunder and lightning at the ball court.

The old coyote god of the Aztecs appears to have been Xolotl, although Tezcatlipoca, the trickster, is sometimes thought of as a counterpart of the

⁴⁸ A. de Vetancurt, *Teatro Mexicano*, Mexico, 1870, vol. I, cap. V, p. 446.

⁴⁹ *The Mexican Chronology with Special Reference to the Zapotec Calendar*. BAE-B 28: 11-55, 45, Washington, 1904.

⁵⁰ *Codex Vindobonensis Mexic* 1, with introduction by W. Lehmann and O. Smittal, Vienna, 1929.

North American old man coyote.^{50a} In the *Codices Telleriano-Remensis* and *Magliabecchiano*, Xolotl is spoken of as the brother of Quetzalcoatl, and in the former it is written that a carved image of Xolotl used to be placed in ball courts, as well as that of Quetzalcoatl. Seler⁵¹ considers that Xolotl and Quetzalcoatl as brothers, opposed and paired beings, expressed the duality of the ball game. They thus appear as the divine twins, the morning and evening star, who throughout North America and in the Maya-Quiché myth of the *Popul Vuh* are the original patrons of games now played by men. In the same way the red and black Tezcatlipoca, the former related to Xipe Totec, a maize god, the latter the dark magician of the smoking mirror are shown together on the ball court of *Codex Borgia* 21 as paired players.

While a philosophy of dualism is quite probably involved, there is another possible explanation for the variety of gods shown with the ball court — that Xolotl, as suggested in the legend of his refusing to die with the other gods at Teotihuacan and hiding as a small plant in the rows of corn, was a survivor of an older order of animal-headed nature gods who were supplanted and their attributes assumed by such humanly divine beings as Tezcatlipoca, Quetzalcoatl and Huitzilopochtli. A song of the festival *Atamalqualiztli* has the lines:

Old Xolotl played ball
On the magic ball court
Xolotl, Lord of the green jade.

In the northwest panel of the Greater Ball Court at Tajin where we have thus identified the priest or god in the guise of Xolotl making new fire, astronomical significance is proclaimed by the sky sign at the top of the scene. This is in the Maya area a generalized sky sign, and occurs in combination with various constellations. On page 36a of the *Dresden Codex* the heaven from which the lightning beast is pendant consists of this sign and a Venus symbol.

The songs translated from Sahagun by Brinton in the *Rig Veda* and by Seler in his *Religious Songs of the Ancient Mexicans*⁵² must frequently have been chanted at the ball court, since they include so many references to

^{50a} E. Seler, *Das Tonalamatl der Aubin'schen Sammlung, mit Einleitung und Erläuterung*, Berlin, 1900, Loubat edition, p. 55. H. B. Alexander, *Mythology of all Races*, vol. XI, Latin-American, Boston, 1920, p. 83.

⁵¹ Seler discusses the mythology of the ball court in *Mythus und Religion der alten Mexikaner*, *Ges. Abh.*, vol. IV, 1923, pp. 1-167, as well as in his commentaries on the codices and in the two articles referred to in note 31. Several ball courts from the codices are illustrated by T. W. Danzel in *Mexiko I. Altmexikanische Bilderschriften*, 1922.

⁵² See note 42. VIII *Xochipilli icuic*, pp. 1025-1027.

the gods of the place and to the place itself. There is a song of the festival of Atamalqualiztli from which lines on Xolotl have been quoted, a song of the Huitznauac who were probably the first Eagle Warriors; there are songs of Centeotl, Xochiquetzal, Ciacoatl, and companion songs of Xochipilli and Macuilxochitl. In the songs the theme of sacrifice is marked, but one feels that at the ball court sacrifice and ceremony alike are offered that man may join nature in giving, feeding the people as well as the gods. The song of Xochipilli is given here, following Seler's translation. It appeals to Centeotl, the red maize god, to Cipactonal, perhaps a goddess of the earth, and to the rain gods of Tlalocan. But it must be remembered that Xochipilli is himself a maize god as well as a god of games, and like Macuilxochitl is often shown with his head in the jaws of the bird called Quetzalcoxcotli.

1. On the ball court sings the Quetzalcoxcotli,
Answers to him, the maize god;
When it is time for us we shall establish
Ourselves in our ball court,
There shall we sing,
And with us the Quetzalcoxcotli.
2. Already our friend sings,
The Quetzalcoxcotli sings in the dawn,
The red maize god.
3. The lord of the dawn shall listen to my song,
The god with the mask of thigh skin,⁵³
To my song shall listen Cipactonal,
The god of the earth.
4. Ayao, ayao, ayao, ayao. I le' my command
Be issued to the rain priests, ayao, ayao, ayao.
5. To the rain gods, to the servants of Tlaloc,
I issue my command,
I will now go to my home.
6. I came to the place where the roads meet,
I, the maize god;

⁵³ "teumechave" literally translated by Seler as "the god with the face paint of thigh skin," or mask made of thigh skin, and by Brinton as "the twice divine seed thrower" or "the planter of the divine maguey." The word appears several times in the songs, primarily as applied to Teteuynan, a goddess closely allied to Ciacoatl. The picture of Teteuynan (Seler edition of chapters from Sahagun, vol I, p. 40) has paint rather than a mask around the mouth and in form may be intended to resemble the rawhide worn in the ball game to protect the thighs

Where shall I go now,
Which way shall I take?

7. Ayyao, aya, ayao, Priests of the god
In Tlalocan. Rain gods, ayyao, aya, ayao.

You rain gods, priests of the god.
Which way shall I take? You gods!

THE NORTHEAST PANEL (fig. 6) contains a representation of human sacrifice. The victim rests on a high curved sacrificial stone like those shown in frescos of the Temple of the Jaguars at Chichen Itza, the Temple of the Warriors,^{53a} and in a few similar representations of the codices. One priest holds the victim's arm and supports his head, the other holds the stone knife with the point at his throat. A fourth figure is seated in a temple, grasping a long staff surmounted by a banner. In front of him is an interlaced symbol which I cannot explain, and another symbol of unknown meaning appears in a vacant space at the upper right hand corner of the scene. The plumes of the serpent at the left, in front of a decorated spear, are drawn in a style closely resembling those of a serpent in one of the panels of the main pyramid (Fig. 1).

A death god descends upon the scene from the sky overhead. He has skull and skeletal body, but fleshy arms and legs, and in his position suggests the so-called "diving" god at Sayil and Tulum and one in the Dresden Codex, page 58, with the Venus symbols as a head. Beside the death god is an S-shaped device resembling the Maya sign that symbolizes the reversal from the dry to the rainy season.^{53b} The closest parallel to the panel is found in Codex Borgia 39, where a skeleton with reptilian claws is shown in this position over a ball court. Gods reaching down from the sky appear also in the Aztec codices, notably in sun discs in the Codex Vaticanus A. They are found in sculptures as far south as Santa Lucia Cosumalhualpa in the Pipil region of Guatemala.

There are several other references to sacrifice in the Great Ball Court at Chichen Itza besides the sacrificial scene represented in fresco in the Temple of the Jaguars. The stone-faced terraces within the vertical walls have terminal sculptures with a skull on a circular disc as the central motive, while the surrounding picture includes warriors and a floral design. The carved columns in Room E have as one subject skull-faced female deities with cross

^{53a} E. H. Morris, J. Charlott, A. A. Morris, *The Temple of the Warrior's at Chichen Itza*, Yucatan, Carnegie Institution of Washington, 1931, vol. II, pl. 145.

^{53b} H. J. Spinden, *The Reduction of Mayan Dates*, 1924, Peabody Museum Papers, vol. VI, no. 4, p. 184.

bones on their skirts. In the small ball court southeast of the Castillo at Chichen Itza, captives held by their hair are pushed onto the scene by warriors.

From the jaws of the skeletal figure in the northeast panel at Tajin, a speech scroll of welcome extends toward the head of the warrior about to die. Another speech scroll is at the lips of the sacrificing priest. He seems to have a stepped noseplug, although his features are partly effaced and one cannot therefore be certain. Both priests have feather ornaments hanging to the ground from the back shield, like those on the stelae of Huilocintla, and skirts of fine textiles with elaborate borders.

The fine costumes of the human figures at Tajin have their closest objective analogy in the sculptures of Cerro de las Mesas and the Olmec figurines. Whenever the "laughing faces" have bodies, these are adorned with aprons of intricate pattern, and Motolinia describes the players of the ball game as nude except for very well worked aprons or *maxtlatl*. It is interesting that, in two cases⁵⁴ at least, the headdress of a laughing face bears the sign 1 Ozomatli, or 1 monkey, the day of Xochipilli, the god most specifically associated with the ball game. It is generally conceded that the laughing face figurines were fixed to the walls of temples, and these must sometimes have been the walls of ball court temples.

Most of the persons on the Tajin sculptures wear skirts and headdresses, so that ceremonies at the ball court rather than players garbed for the game are indicated. Certain details which indicate that there are players among them will be described presently. The ornamented girdles and the skirts edged with fringe and feathers agree with the evidence of the tribute rolls and comply with Sahagun's description of the Totonacs as living in a land of abundance where they grew fine cotton from which they made various and many colored garments.

At first sight it appears that the sacrificial victim of the northeast panel has had his left arm amputated, as it ends in a blunt rectangle instead of a hand. But further examination shows that the left hand of the sacrificing priest ends in the same way and that in both cases fastenings appear at the wrist. The wrapped hand shown in the stela of Tepatlaxco has been identified as covered with a glove used in the ball game, and although the form is somewhat different here, it is very probable that we have pictured the *mayeuatl* mentioned by Sahagun⁵⁵ and shown in the Codex Fejérváry-Mayer 29. Sahagun says:

⁵⁴ One example in the Hamburg Museum and one in the Heye Museum.

⁵⁵ E. Seler, *Elucidation of Codex Fejérváry-Mayer*, Berlin and London, 1901 and 1902, p. 137, quoting Sahagun's Madrid Manuscript, Bk. VIII, Ch. X.

With this stuffed glove the player supported himself on the ground when he stooped or half-knelt to present his back to the rubber ball.

The etymology of the Quiché word used in the Popul Vuh for the glove of the ball game also signifies padded leather. Rites that concern these tools of the game are mentioned by Duran:

These players came at night placing the ball on a clean plate and the hip covering of skin and gloves which they used . . . and hung these on a pole and prayed before them. . . .

The two figures who wear gloves and the priest on the left, as well as the two central figures in the northwest panel, are pictured with a horn-like object above the belt. It may be the *quezeuatl*^{55 56} the rawhide belt and covering of the hips and thighs worn in the game. It is extremely interesting that figurines from the neighborhood described on page 268 show this detail in more exaggerated form and likewise have one arm longer than the other, ending in a padded glove.

Of course, it seems strange that the person sacrificed should be in the costume of a player. A possible explanation is that instead of being a captive warrior he is a player who has lost in the game. We know that sacrifices were demanded in the Aztec ball court when a new fire ceremony was held in the festival of *Panquetzaliztli*—the feather banners—and the sacrifice of a player may have been a condition of a corresponding Totonac ceremony. Poor men are said to have wagered their lives on the game, and the stakes ran the gamut of everything precious, reaching a climax in a contest for cities by *Axayacatl* and *Montezuma II*.⁵⁷

The Ball Game outside of Mexico. Something may perhaps be learned of the symbolism of the Mexican ball game from the ball games which survived among the more primitive tribes of North and South America. In both continents the rule prevailed in the majority of ball games that the ball must not be touched with the hand. Culin⁵⁸ gives as a reason for this that the ball was a sacred object identified with the earth, the sun or the moon. The prohibition held with surprising uniformity in racket, shinny, double ball and the ball race. In South America a rubber ball was used over a wide area, but in North America rubber was not available and the substitution of any other material immediately changed the nature of the game. Culin wrote:

⁵⁶ A. de Molina, *Vocabulario de la lengua Mexicana*, (1571), Facsimile edition, Leipzig, 1880, p. 88, p. 51.

⁶⁷ Vetancurt, *op. cit.*, vol. I, pp. 313 and 325.

⁵⁸ Article, *Games*, BAE-B 30, 1907.

A well-marked affinity exists between the manifestation of the same game even among the most widely separated tribes; the variations are more in the materials employed, due to environment, than the object or method of plays.

Also

Back of each game is found a ceremony in which the game was a significant part. . . . The ceremonies appear to have been to cure sickness, to cause fertilization and reproduction of plants and animals, and, in the arid region, to produce rain.

In that southeastern region where archaeological influence from the Totonac area has been discovered, the Natchez⁵⁹ played the ball game on the morning of the festival of new corn. A case could be made for the relationship between the ball game and the religious control of food supply among agricultural and nonagricultural peoples as well. For instance, the hoop and pole game was played by the Skidi Pawnee^{60a} to increase the buffalo, and the Makah^{60b} of Washington formerly played shinny only when they captured a whale. In the animistic religion of the wilder South American tribes plant spirits had an important part in determining subsistence. At the time of planting a tribe of the Amazonian lowlands, the Araonas⁶¹ were reported to garland themselves with feathers and play ball, the harvest also being celebrated with special religious and magical ceremonies. Many such instances can be found in the ball games of the simpler cultures to prove that an agricultural purpose was promoted by the sympathetic magic of the game. In Mexico, in Aztec times, this significance was obscured by a deterioration of the religious aspect of the game in favor of its character as a sport.

On the basis of likeness in meaning and performance, a simple ball game pervading the area of agriculture and antedating the Toltec period in Mexico can be postulated. Points of likeness were perhaps reinforced by a secondary diffusion of *tlachtli*. The most likely evidence of a northward spread of *tlachtli* is provided in the hoop and pole game which was probably played with stone discs in the chunky yards of the southeastern Indians. James Adair^{60c} in describing the game of "chungke" among the Choctaw of Mississippi said it was played with one or two on a side in "a square piece of ground well cleaned," and that the players gambled everything they possessed in the way of jewelry and wearing apparel. The large rectangular chunk yard of the Creeks^{60d} was open at the ends, with terminal mounds

⁵⁹ Le Page du Pratz. *Histoire de la Louisiane*, Paris, 1758, quoted at length by J. R. Swanton, *Indian Tribes of the Lower Mississippi Valley and Adjacent Coast of the Gulf of Mexico*, BAE-B 43:113 *ff.*, 1911.

⁶⁰ S. Culin, *Games of the North American Indians*, BAE-R 24:1907: a) p. 469, b) p. 643, c) p. 485, d) p. 486.

where stood the winter council house and the public square. A game played in a prepared ground with an elastic ball which could not be touched with the hand is reported from the Opata of Sonora,⁶² and the kicked ball game of northern Mexico and the Pueblo area is more faintly reminiscent of tlachtli.

Besides the games played with maize leaf balls and wooden balls in South America, a game played with a rubber ball was reported as early as 1589. Nordenskiöld⁶³ traced a conformity in rules all the way from Yucatan to Argentina. The game was characterized by the players striking an india rubber ball with their heads, shoulders, hips or feet. Details of the game as reported from the Otomacos of the Orinoco by Gumilla⁶⁴ throw light on the Mexican game. There the ball could be caught and hit only with the right shoulder (instead of with the hips as in Mexico). If it touched any other part of the body, the player lost one point. It was played in grounds set aside for the purpose, with twelve players on a side. When the ball fell and came rolling on the ground, they put it in play again by throwing themselves face down on the ground as if diving and raised the ball with the impact of the shoulder. Gumilla noted the likeness to the game played by the Acaxee Indians in northwestern Mexico. The Otomacos were Arawak-speaking Indians, and Nordenskiöld considered that the Arawaks carried the game to Haiti, and that it was there played with imported rubber balls in the gaming grounds common to West Indian archaeological sites.

Mound of the Sculptured Drums. The subject matter and style of the sculptured drums on the high mound west of Tajin Chico are somewhat closer to the Aztec than the sculptures of the ball courts. Examples of these circular drums carved on the circumference are shown in plate XVII. It may have been to these that Bausa⁶⁵ referred when he wrote in 1845 that near Tajin were "enormous stones in the form of cups (tazas) and with very clear and curious reliefs on their faces." Seventeen of these were found unbroken, but the map of the fragments that tumbled in confusion over the upper part of the mound shows that there must have been thirty in all. The drums are 3 feet, 8 inches in diameter, and of varied height, averaging

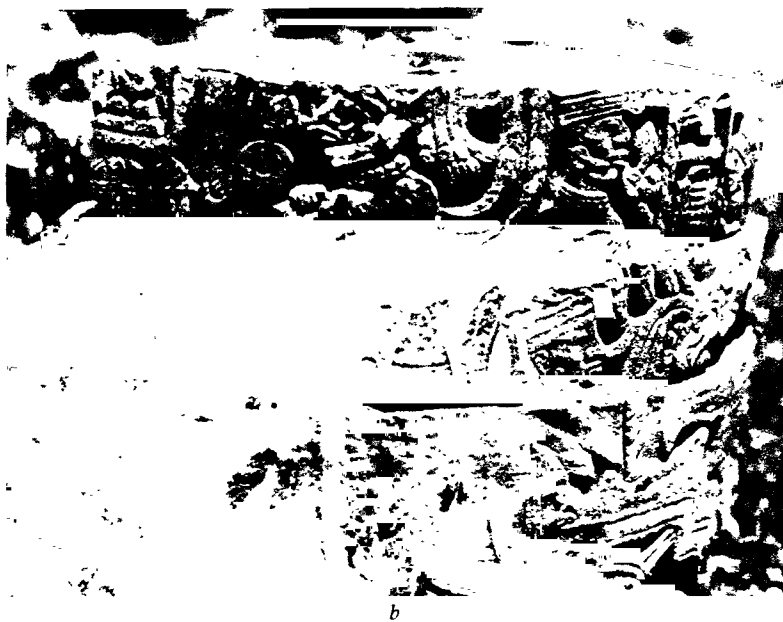
⁶¹ G. E. Church, *Aborigines of South America*, London, 1912, p. 147, quoted by R. Karsten, *The Civilization of the South American Indians*, London, 1926, p. 84.

⁶² H. H. Bancroft, *Native Races, I. Wild Tribes*, San Francisco, 1883, p. 586.

⁶³ E. Nordenskiöld, *Comparative Ethnographical Studies*, 2, Göteborg, 1920, pp. 101-109 and Map 9.

⁶⁴ J. Gumilla, *El Orinoco ilustrado, y defendido, historia natural, civil, y geographica de este gran rio*, Madrid, 1741, Pt. I, Ch. XI, pp. 105-106.

⁶⁵ *Op cit.* 411-412.



Tajin. Sculptured drums: *a*, beside Mound of Sculptured Drums, 1929; *b*, fragments near top of Mound of Sculptured Drums, 1931.

7 inches. Three plain drums were discovered in or near their original position, close to the rubble walls of a fallen temple. A few stones came to light with a wide border having feet resting upon it, others with narrow border above decadent serpent forms. These must have been the lowest and uppermost stones respectively.

While these would at first sight seem to be stones of circular altars, they may eventually prove to have been columns. Only three bases have been discovered so far, and there are so many drums that if fitted one on the other they would have a height proper for columns rather than altars. We have authority for either supposition. There are the large semi-circular columns of Tizatlan⁶⁶ and Cempoalla and the rounded columns of the Misantra region, while round columns in drums, both plain and carved, became important in Second Empire Yucatan. In advocacy of the altar theory there is a monolithic round altar in the platform of the Temple of the Chimneys at Cempoalla, and Aztec sculptured drums like the Tizoc stone may also be considered altars.

It is likely that these cylindrical sculptures are the latest monuments in the ruined city of Tajin. Numerous dates occur, with day signs close to the Aztec, but with bar and dot numerals. These may be merely personal names, in agreement with a custom prevailing among the Zapotecs, Quichés, and Cakchiquels, and with the fact that several of the Totonac kings listed by Torquemada had dates as names. The eight hundred years exhausted by Totonac rulers in reigns of eighty years each are probably mythical and should be telescoped. Dr. Spinden writes in *The Reduction of Maya Dates*⁶⁷:

We learn further from Torquemada that the Teochichimecas, by which term we may understand Toltecs, swept down and conquered the Totonacs whose first ruler had just been succeeded by his son Xatontan. This first ruler is called Umeacatl which is the calendrical term 2 Acatl and it is on the . . . year 2 Acatl [1195-96] that the 52 year cycles of the Mexicans begin.

This would imply that for a time, at least during the life of Quetzalcoatl, the Totonacs were politically subject to the Toltec Empire.

Many details of the sculptured drums are reminiscent of subject matter in the Mexican codices. Pictured on the drums are numerous persons—in procession, confronting each other in ceremonies, seated in temples or on benches like those shown in the Lesser Ball Court. Among the eagle men is one with bird headgear around a human face and wings attached to the

⁶⁶ A. Caso, *Las ruinas de Tizatlan*, Tlaxcala, *Revista Mexicana de estudios historicos*, vol. 1, 1927, no. 4, fig. 1.

⁶⁷ *PM-P VI*, no. 4:97, Cambridge, 1924.

arms, which finds almost a counterpart on page 1 of the Vienna Codex and page 2 of the Codex Nuttall. A temple wall is filled with battlement design of a type much used in these codices. Human sacrifice is depicted several times. There are birds and men, jaguars, a year bundle, speech scrolls, incense and copal. Above a plumed snake, provided with an ornate speech scroll, there is a floral design which may represent grandiloquent comment, as this figure and a jaguar are facing a god. In the abundant fantasy and lively action of these stones further significance would be revealed if they were placed in their original positions.

Costumes and headgear are varied, the men's skirts and aprons are of textiles with intricate weave, and one long woman's skirt has a diagonal pattern such as often occurs on figurines of Tabasco and Campeche, as well as in Vera Cruz. The vertical headdresses already mentioned (page 242), which are built up in layers and sometimes plumed, seem to be in the majority, but there are also caps. The principal weapons are spears with long points and battle axes set with obsidian. One shield has a scalloped border similar to those on turquoise discs. Some figures are larger than others, and these we shall probably find are gods.

Time relations to the centuries immediately preceding the Spanish Conquest are so vividly expressed in these sculptures that it is hard to believe that Tajin was abandoned much before the sixteenth century. No mention of the ruin is known from the early sources, but Papantla two hard leagues away appears in the Tribute Roll of Montezuma and is again mentioned as an insignificant settlement of one hundred and fifty Aztec-speaking Indians (surrounded by towns speaking Totonac) in 1571.⁶⁸ It is fairly certain that the Aztec drive through Cuetzalan to Nautla destroyed the waning Totonac power in the north. The once wealthy Totonacs lost their highway, the great Tecolutla river, and dispersed in small villages among the hills and mesas that reach almost to the coast.

The worn sculpture of plate XVIIIc lies in the trail between the Mound of the Sculptured Drums and Tajin Chico. With considerable difficulty it was raised to a position in which it could be photographed on our second visit in 1931. A masked man carrying a torch mounts the temple or altar which is represented like those on the base of Monte Alban stelae and on a fine palmate stone in the American Museum of Natural History. Beneath the temple is a serpent head with human arm, perhaps an elaboration of roots for the tree dividing the scene which may be compared to trees at Cerro de las Mesas and Chichen Itza. Seated in the temple is a figure remi-

⁶⁸ *Relacion de los Obispos de Tlaxcala, Michoacan, Oaxaca y otros lugares en el siglo XVI*, Edit. L. Garcia Pimentel, Documentos historicos de Méjico, Mexico, vol. II, 1904, p. 8.



a, Potsherd of Totonac type in Peabody Museum of Harvard University; *b*, comparison of bird figurines from Tuxtla region (Mexican Museum) with atlantean figures on High Priest's Grave, Chichen Itza; *c*, Tajin, panel near Mound of Sculptured Drums.

niscent of the priestess on the rock of Maltrata, where as at Tajin there are Aztec day signs with bar and dot numerals. The small creature hovering above like a guardian deity is not readily explained.

This sculpture has the same qualities that prevail elsewhere at Tajin—details show the period to be Toltec or later, yet the style is distinguishable from that of the highlands and of southern Vera Cruz,⁶⁹ and the most marked characteristic, aside from a general clearness and beauty of execution, is the use wherever possible of the typically Totonac double outline. The development of the Totonac individuality in art demands time. According to the Spinden Correlation of Maya and Christian days, Teotihuacan was abandoned in 1220 A. D., but at Teotihuacan there is evidence of Totonac influence in frescos of subterranean buildings and in minor objects. This reaction is not sufficient to place the origin of Totonac art on the highlands, in spite of the legend of the Totonacs that their ancestors had built the pyramids of Teotihuacan, but it demonstrates that by the twelfth century at least the Totonac personality had achieved its major growth. It is probably safe to say that this had happened in 1000 A.D., but both in minor art and in Tajin sculptures most of the work known to us belongs to the inspired thirteenth century.

POTTERY

Ceramic art of the northern Totonac area cannot at present be defined owing to the lack of excavation. Nevertheless, one and probably two or three types of pottery may be attributed to the Totonac culture. A sherd in the Peabody Museum of Harvard, shown in plate XVIIIa, illustrates the yellow gray or cream colored pots familiar in the Nepean collection of the British Museum from the Isla de Sacrificios and in the Cerro Montoso group of the Strebel collection. The cream clay is the base color, and white the principal decoration; a dark outline—brown, red or black—corresponds to

⁶⁹ Sculptures that are surely Totonac have a double outline made by two grooves of equal depth, while those that are doubtful have one line heavier than the other. Also the Totonac scrolls are softened rectangles rather than parts of circles. According to the latter test, I think that the stone of Hueyapan (C. Seler-Sachs, *op. cit.* Pl. V, 3.) in the Tuxtla region may be Olmec rather than Totonac. Even yokes can sometimes be placed in northern or southern Vera Cruz when, as is so often the case, their origin is in doubt, by the presence or absence of an even double outline. There are striking resemblances to conventionalized Totonac art in the art of the Old World; first, in Chinese design with double outline used on bronze and jade in the Chou and Han periods and later; and second, in an art influenced by the Chinese, the interlaced Scythian ornament which persisted in Celtic and Teutonic decoration at least to the 12th century of the European Middle Ages

the double outline of Totonac sculpture, and there are accents in red, sometimes yellow. The designs figured on this cream pottery show close relationship to those on the palmate stones and Tajin sculptures, and a comparison has been made in figure 8 and the upper row of figure 9. Light orange pottery and a polished black, both often incised, at times repeat the shapes and designs of the cream colored type; they occur in the same collections and may also be characteristically Totonac.

The Cerro Montoso group of pottery wares, to which belongs the greater number of vessels from the Isla de Sacrificios, including the cream colored ware mentioned above, has been popularly classified as Totonac, in its

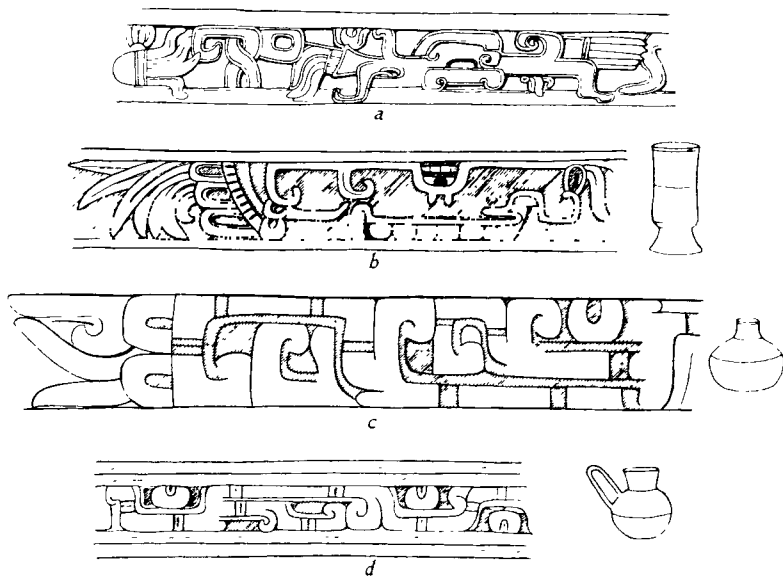


FIG. 8 Totonac motives in stone and pottery of cream clay Totonac type *a*, Stone, Tajin, Lesser Ball Court, *b*, pottery, Isla de Sacrificios, National Museum of Mexico, *c*, pottery, Isla de Sacrificios, British Museum; *d*, pottery, La Huasteca, National Museum of Mexico. Drawings by Herbert J. Spinden

entirety, but Strebel hesitated for many years, first assigning the group to Chichimec conquerors of the Totonacs, and later to the Totonacs themselves. The identification as Totonac is due partly to a geographical or chronological separation from the pottery of southern Vera Cruz as characterized by Strebel's Ranchito de las Animas group, but chiefly to the quality of line which is so like that of the palmate stones. The dark outline about the white represents the ridged outline of Totonac sculpture.

In the Strebel⁷⁰ collection there is hardly an instance of Cerro Montoso pottery being found in exactly the same diggings as Totonac stone sculpture, yet the range of provenience for the cream ware exhibited in the Mexican National Museum is from "La Huasteca" to Cotastla. Pottery in a variant of Cerro Montoso type comes from Quimistlan on the extreme western border of the Jalapa region and while palmate stones were found in a grave at the same site, they are not in the best Tajin style. The greatest quantity of cream ware was collected near Cerro Montoso at Chicuasen and Vainillas. However, Cerro Montoso pottery, including the cream variety, was also discovered further north in the neighborhood of Misantla, which likewise yielded several good examples of Totonac sculpture. In 1931 we collected a few sherds at Tajin, one being in a cream clay with red design and apparently a fragment of a plate similar to Mexican Museum specimens from Otates near Cerro Montoso.

The theory that Cerro Montoso ware was made by Chichimec invaders from the highlands living among a subject Totonac population, Strebel's earlier opinion, has been upheld by Seler and Krickeberg. It is owing in part to limitation of excavation to the southern half of ancient Totonacapan and the preponderance of collections from the vicinity of Jalapa, which was more thoroughly Mexicanized than the north Totonac region. The claim that Cerro Montoso types are of highland origin is, however, due principally to the fact that the vessels of the Cerro Montoso collection, particularly the orange ones, do not adhere solely to Totonac design. They are often covered with the animal figures and death's heads, the smoke curls and sun rays that populate the belt of polychrome pottery, extending from Alvarado bar up the Papaloapam and Rio Blanco to Cuicatlan, Cholula and Tlaxcala. There is in fact much similarity in forms and frequent loan of design. Yet if one contrasts highland and lowland pottery of this general type, distinctions can be made in form, in the use of color, and in clay.

Jars consisting either of tubular or of pear-shaped vessels above a flaring ring base are popular both on the coast and the highlands, these shapes also finding favor southward to Nicaragua. Vases with heads in the round and limbs in low relief or incised outline are sometimes imitated in alabaster or onyx. It is not unlikely that the vogue of these forms from the Mound Area⁷¹

⁷⁰ H. Strebel, *Alt-Mexiko, Archäologische Beiträge zur Kulturgeschichte seiner Bewohner*, Hamburg and Leipzig, 1885-1889, 2 volumes; *Über Tierornamente auf Thongefassen aus Alt-Mexico*, Veröff. aus dem königlichen Museum für Völkerkunde, vol. VI, no. 1, Berlin, 1899; *Über Ornamente auf Thongefassen aus Alt-Mexiko*, Hamburg and Leipzig, 1904.

⁷¹ There is a stone bowl with duck head in the Strebel collection which finds a close counterpart in treatment in a stone bowl from Black Warrior river in Alabama. C. B. Moore.

to Peru, with an important station at Casas Grandes, was stimulated on the Toltec time level. The Totonacs greatly favored a type of low basin, which they sometimes set neatly on a ring base, as well as large plates, while the potters of Cholula tended more to the high narrow bowl approximating a favorite form in the Old Empire of the Mayas. Ollas with and without handles appear in both regions but are preponderant at Cholula, especially the single-handed pitcher. Small ollas with melon-like striations are also important in Vera Cruz.

While the tripod vessels on the coast have human and animal heads as feet, and some slender re-curved feet—forms which predominate in collections from Cholula and Aztec sites—they also have many bell-shaped feet and the straight tubular legs which are characteristic of Atotonilco-Quimistlan. Spouted vessels of the so-called chocolate pot type had a firm foothold in Vera Cruz, occurring in plain as well as decorated forms in the Tuxtlas, in classic simplicity in Totonac cream pottery, and in a rather ornate form in Huastec black on white ware.

The Cholula potter applies dark red or orange as a ground color over the entire vessel, while the Totonac, in orange ware as well as in the cream, often depends largely on the beauty of the clay, applying decoration in colored borders or rims, or spotting it within. The clay of Cerro Montoso ware is usually homogeneous, while Cholula ware is a dull sandy gray, frequently with an interior black line due to a peculiarity in firing.

The designs that are repeated in the Cholula and so-called Mixtec ware, and in the ware of Cerro Montoso, are designs of ceremonial significance—sun rays, incense, feathers, serpents and birds. Lack of excavation and the somewhat fortuitous formation of collections in the northern Totonac field make us depend the more on artistic comparisons. Two groups of designs are assembled in figure 9 which it is hoped are not too simple for comparison. They extend in space from Tajin to Chichen Itza, and in time can hardly be separated by many centuries. Both groups can be duplicated in those codices of southern or eastern Mexico, of which the Vienna and Nuttall manuscripts are examples.

If a picture could be formed of a ceramic map of eastern Mexico in 1300 A.D., we should probably find that nearly every large town or ceremonial center from the coast to the Valley of Mexico produced an individual type of the gayly colored ceremonial pottery so much prized in collections. There must have been considerable trading, but gradual or rapid transitions

Certain Aboriginal Remains of the Black Warrior River, (etc.). Reprint from the *Journal of the Academy of Natural Sciences of Philadelphia*, vol. XIII, Philadelphia, 1905, fig. 167.

of culture marked by language and nationality would be matched by variant types of pottery, —a picture not unlike that which we have from the well studied ceramic map of the Pueblos.

The ceramic art of the Totonacs appears to have been widely diffused in company with the complex of myth, religious observances, and material culture already discussed with regard to the ball game. Many important ceremonial designs, such as hands, hearts, skulls and shields, eagle warriors, plumed and horned serpents have been traced as far north as the Mound Area by Dr. Spinden in his article on War Cults of the Toltecs. The pottery on which they occur belongs to excavations and collections which likewise include the shell gorgets with eagle men, scalloped stone discs or shields of Mexican form, and effigy pipes representing jaguars (or at least panthers)

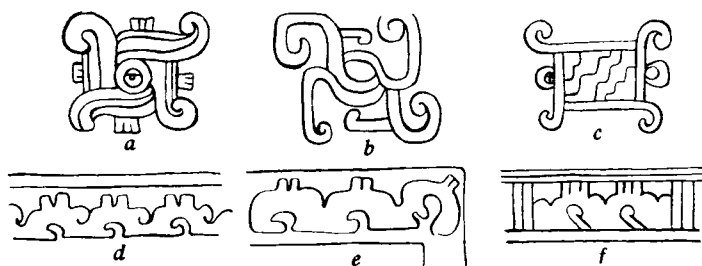


FIG. 9. Totonac motives in stone and pottery showing diffusion. *a*, Pottery, Mixteca, Spinden, *Maya Art*, fig. 258; *b*, stone, Tajin main pyramid; *c*, pottery, Misantla region, Strebel, *Ornamente auf Tongefässen . . .* pl. 19; *d*, pottery, Isla de Sacrificios, National Museum of Mexico, *e*, stone, Chichen Itza, Temple of the Sculptured Panels; *f*, pottery, Atonilco, Strebel, *Alt-Mexiko*, vol. II, pl. 34.

and crouching human figures with quite an Aztec feeling.⁷² In the pottery of Casas Grandes, Mimbres, and Pueblo IV, which fall in suitable chronological situation, there are also likenesses to Cerro Montoso design. Southward forms and designs of Cholula and Cerro Montoso⁷³ origin can be

⁷² C. B. Moore, *op. cit.* H. C. Shetrone, *The Mound Builders*, New York, 1931.

⁷³ S. K. Lothrop, *Pottery of Costa Rica and Nicaragua*, Museum of the American Indian, Heye Foundation, Contributions, vol. VIII, New York, 1926; vol. I, pl. XXXIII, vol. II, pp. 398-399. J. Jijon y Caamaño, *Puruha, contribucion al conocimiento de los aborígenes de la provincia del Chimborazo de la Republica del Ecuador*, Edicion separada de los nos. 6, 12, 14, 17-26, del Boletín de la Academia nacional de Historia, 1927, 2 vols., Quito; vol. I, pp. 141-142, figs. 76-86. W. Krickeberg, *Mexikanisch-peruanische Parallelen*, in *Festschrift P. W. Schmidt*, ed. W. Koppers, 1928, pp. 378-393. M. Uhle, *Desarrollo y origen de las civilizaciones Americanas*, 23rd Congress of Americanists, 1928, New York, 1930, pp. 31-43; p. 38. H. J. Spinden, *War Cults of the Toltecs*.

clearly identified in the Isthmian region and have been recognized in Ecuador and Peru. Since the arts of Mexico travelled so far in the wide sweep of Toltec cultural dominion, it is not strange that they exerted a powerful influence upon each other within Mexico itself.

From the actual vicinity of Tajin we have been more fortunate in observing figurines than pottery. In 1929 a few heads with a mould for making them were acquired at Posa Larga and Espinal on the Tecolutla river. These bear some resemblance to the later Huastec figurines, and among them are specimens with traits that are usual at Teotihuacan, but they appear to be a Totonac product with the vertical Totonac headdress and large circular earplugs, as shown in figure 10. Better and complete examples of a similar type, both male and female, and like the others of a cream

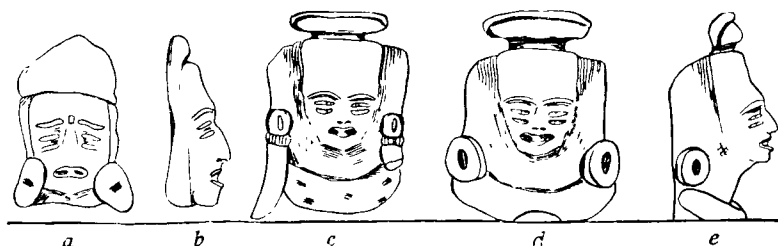


FIG. 10. Figurines of a Totonac type. *a, b*, Posa Larga; *c-e*, San José Acateño. Two-thirds natural size.

colored clay matching exactly the cream clay of pottery with Totonac design, were sketched in 1931 in the collection of Louis André in Papantla, and we were presented with one specimen.

The latter were collected at San Jose Acateño on the road from Papantla to Tlapacoyan. Two heads from San Eligio near Misantla figured by Strebel⁷⁴ may belong to the same group. In numerous instances these figurines have one arm longer than the other, with a wrist band and a thick mitt below. It seems that a ball player is represented with the protecting glove shown in the Codex Fejérváry-Mayer 29 and possibly in the Greater Ball Court at Tajin. These figurines have not the elaborate costume of the figures in the Greater Ball Court, and are accordingly more properly attired for the game with only a girdle and the usual necklace and earplugs, but they have the same accoutrements in the padded glove and the projecting horn-like detail above the belt.

Although there is a very close resemblance between the figurines in André's collection (fig., 10 *c* to *e*), they are not mould-made, or at any rate

⁷⁴ *Alt-Mexiko*, vol. II, pl. XII, 31 and 32.

not finished in a mould. Strokes are evident on the surface, there are slight differences in one head to another, and the eyes are made by delicate incisions. The heads from Posa Larga and Espinal, on the other hand, appear to be mould-made. Although they are worn specimens, while those from Acateño are in comparatively good condition, the equality of proportions in different specimens and the rounded lines point to their being mould-made. The technique of the eye is reversed. The hollows lose their sharpness and the ridges between are more pronounced. Moreover, at Espinal, which we considered the later of the two sites, we found a mould. The Espinal specimens were said to have been excavated in a stone-faced prehistoric house mound where a hole had been dug for planting, but they included a bird on a stand, resembling an Aztec type, and a piece of Spanish silver. Several of the figurines from Posa Larga (fig. 10, *a* and *b*) we saw *in situ* at the foot of high earthen mounds. Instead of being a primitive stage of those from San Jose Acateño (fig. 10, *c* to *e*), they are more likely a degeneration after the introduction of moulds. The contrast reminds one of the two kinds of Huastec figurines described by Staub,⁷³ but here the change in technique is less marked. As in the matter of pottery, our doubts might be solved by excavation at Tajin.

The transition from Archaic to mould-made figurines is well shown in Vera Cruz in the numerous specimens of the southern Totonac and Olmec regions. We noted Archaic, transitional, and mould-made types at Cerro de las Mesas and the Tuxtlas in 1929. As has been stated in discussion of architecture, vigorous artistic influence was first exerted on the art of Vera Cruz by the Mayas in their Middle Period (630-960 A.D.). With the disturbance of the established religious oligarchy in the breakup of the Old Empire, the heirs of its tradition must have been liberated from ancient custom for new ventures. The young cities in the region of Campeche, Champoton, and Xicalanco began to pursue a lively trade with Mexico.

The influence of the richly costumed figurines of Yucatan and Tabasco, as exemplified at Jaina and Jonuta, is strongly felt in Vera Cruz, but as with certain Maya elements in the art of Vera Cruz it was either long dormant or delayed in transference, for most of our figurines must, if reluctantly, be placed on the same late level as Cerro Montoso pottery. An attempt is made in plate XVIII*b* to find temporal position for the bird figurines that are so numerous in the Tuxtlas, illustrating contemporaneity with the atlantean sculptures on the High Priest's Grave, a late building at Chichen Itza. The

⁷³ W. Staub, *Neue Funde und Ausgrabungen in der Huasteca (Alt-Mexiko)*. Bern, 1920, 45 pp., pl. III.

laughing faces of the Mistequilla belong to a series with both hands raised in identical posture, which is traceable among small well-fashioned figures from northern Yucatan through the Tuxtlas to Cerro le las Mesas.

TAJIN THE FOCUS OF TOTONAC ARCHAEOLOGY

While the sources of minor objects of Totonac art are thickly distributed from the Actopan to the Tuxpan Rivers and inland to the edge of the high plateau, it is a remarkable fact that sculptures of Tajin type are recorded from only three sites, two of them doubtful. One of these is Mapilca on the Chichicazapa river, which we visited in 1931, hoping to see the sculpture recorded by Nebel. A sketch map was made of numerous mounds constructed entirely of small stones with plaster facing, but the large carved block was not forthcoming, and a reexamination of Nebel's drawing made it seem possible either that it was confused with his notes on Tajin, or that we were not at the site he described. The stone of Tusapan pictured in the Troncoso report without details of discovery is a slab having border identical with borders of the four foot panels from the main pyramid at Tajin. It is now placed with other sculpture in the wall beside the school house at Papantla, and one wonders whether it was actually transported over the trail from Tusapan.⁷⁶

Concentration at Tajin of art forms which pervaded a considerable area indicates that it was a great capital and an early one. It is well placed for trade at the low divide between the Tecolutla and Nautla rivers, in foothills where travel, though none too easy, is much more rapid than in the coast range a day's march away. Tajin presents itself as a secluded center where Mayan and Mexican objects and ideas came with a good deal of difficulty by water-way and marshy roads or down mountain trails. These were used and recreated for centuries by priests and builders until they were brought from a mist of varied forms to a sharp focal point. The defined art was placed on temple walls in stone where it became a goal of the pilgrimages dear to every Indian. The foot-traveller returned to his home in Zacatlan or Misantla to make a palmate stone or yoke for a sacrificial ceremony, while the Toltec merchant carried vaguer memories into a widened circle of Totonac influence.

BROOKLYN, NEW YORK

⁷⁶ In the Catálogo de los objetos que representa la república de Mexico en la exposición historico-Americana de Madrid, 1892, Del Paso y Troncoso states that the heavier specimens stored in the Escuela Cantonal de Papantla could not be sent to the exposition owing to the advent of the rainy season.

THE PLAINS CULTURE AREA IN THE LIGHT OF ARCHAEOLOGY

By W. D. STRONG

CONSIDERING the emphasis placed on ethnological studies among many tribes of the Great Plains it is surprising that so very little archaeological research has been accomplished in the region. Twenty-odd years ago Wissler pointed out the pressing need for scientific excavation in the central area before modern agriculture destroyed the connection between the historic and the prehistoric period.¹ Only in the last few years has this highly valuable suggestion received attention. Despite this one-sided approach, however, the Plains area has now practically assumed the rôle of a type specimen in North America. Like all type specimens, it must be reexamined and reevaluated from time to time as new material becomes available. Recent excavations in the heart of the Plains area seem to make such a review profitable.

Among the tribes of the Plains two distinct modes of life can be distinguished, the nomadic buffalo hunters on the one hand and the semi-sedentary horticultural tribes on the other. The question arises as to which of these two types was most characteristic of the area in strictly aboriginal times. Wissler has described the hunting tribes as "typical" and the horticultural peoples as marginal or atypical.² It is necessary, however, that the influence of the horse be discounted in reaching any correct estimate of purely native culture patterns in the Plains. In his well-known study, *The Influence of the Horse in the Development of Plains Culture*,³ Wissler concluded that from the qualitative standpoint the culture of the Plains would have been much the same without the horse. At the same time, rather paradoxically it seems to me, he showed that the horse culture inhibited tendencies toward agriculture, pottery, basketry, and fixed habitations. Likewise his study indicated that the advent of the horse reversed cultural values in the area, inasmuch as the earlier dominant sedentary cultures of the Siouan and Caddoan tribes were later overshadowed by the Shoshone and other nomads of their old frontier. It is hard to reconcile these two conclusions, since the inhibition of such basic cultural factors as agriculture and its associated traits would seemingly affect the quality as well as the quantity of any civilization.

Since Wissler pointed out in his earlier work that a distinct turnover in Plains cultural values accompanied the introduction of the horse his sub-

¹ Clark Wissler, 1908, p. 201.

² 1920, p. 20, and 1922, pp. 220-221.

³ 1914.

sequent concentration on the nomadic buffalo-hunting tribes might be explained as due to an interest in the very late horse culture alone. However, his tendency to project the nomadic hunting type of life back into the prehistoric past is clearly indicated in more recent papers. It is especially marked in his characterization of the poverty-stricken "Querechos" of the Coronado narratives as typical Plains dwellers of the sixteenth century, whereas the same documents stress the numerous horticultural and sedentary peoples of "Quivira and Harahey" to an even greater extent.⁴ Since the present-day concept of the Plains culture area is largely based upon Wissler's characterization, these apparent contradictions assume considerable importance.

Recently Kroeber has approached the problem of basic Plains culture patterns from the geographic and ethnographic standpoint.⁵ His brief analysis agrees with Wissler's earlier view that the introduction of the horse reversed cultural values in the region. Kroeber, however, suspects that the tendency of ethnologists to place the focus of Plains culture among the northern hunting tribes is historically conditioned, inasmuch as the advanced southern tribes crumbled first under American contact while the more intact northern tribes received the most complete scientific study. He believes that from two to four centuries prior to American contact the cultural focus actually lay south of the Platte and that this may have been true as late as the nineteenth century. The advent of the horse, accompanied by alien white pressure, brought about a dominance of nomadic hunting tribes along the border of the Plains, whereas, it appears to Kroeber, the aboriginal culture of the central regions was probably horticultural and of an attenuated Southeastern type. Since the above questions are primarily archaeological, it may be asked what contribution toward their solution has come from the archaeologist.

The prevalent picture of Great Plains archaeology is very dismal. According to Wissler,

pottery is absent from Plains archeological sites, [and] a general enumeration of the objects found in archeological collections from the heart of the Plains indicates that the tribes of the buffalo country never rose above the cultural level of nomadic hunters.⁶

It has been characterized as a barren area influenced on all sides by adjacent cultures. While pointing out that actual field exploration may change

⁴ 1920, pp. 148-150. Compare Winship, 1896, pp. 527-530, 589-593.

⁵ A. L. Kroeber, 1928, pp. 394-396.

⁶ 1920, p. 150.

this picture, Wissler states that tipi rings, quarry sites, scattered stone alignments, pictographs, and simple bone and stone artifacts seem to typify the whole area, while permanent habitation sites and pottery are generally lacking.⁷ Kroeber suggests that the largely negative results of archaeology in the Plains indicate a very sparse and intermittent population for a long time.⁸

Thus to the present time the native basis of Plains culture, like the prehistory of the area as a whole, has been approached in terms of ethnological analysis rather than by archaeological research.

An unequivocal answer is now possible to the question whether this negative contribution of archaeology is due to any actual nonexistence of historic and prehistoric evidence in the Great Plains. Recent investigation in Nebraska and adjacent states has revealed an impressive amount of archaeological evidence awaiting scientific excavation and publication. As a test case, to suggest what we may confidently expect to learn with really adequate excavation in this larger area, it is proposed briefly to outline the results of recent archaeological research in Nebraska. Since Nebraska is situated in the very heart of the Great Plains it may be of interest to check ethnological theories against archaeological facts in so far as the latter are available at the present time.⁹

For this purpose it becomes essential to correlate the local environments, the historic location of tribes, and the protohistoric and prehistoric cultures so far revealed at this embryonic stage of Nebraska archaeology. This can be done schematically as follows.

Extending west from the Missouri river almost to the foothills of the Rockies the territory now included within the state of Nebraska bisects the Great Plains in their central portion. Contrary to popular conception, this central section is surprisingly diverse in topography. From the physiographic, and to a considerable extent from the biotic standpoint Nebraska is subdivided into four natural regions. On the east, bordering the Missouri river, is the glacial area of loess-covered bluffs and eastern Woodland conditions so far as flora and fauna are concerned. The soil is rich and varied,

⁷ 1922, pp. 271-272. This, incidentally, seems a good characterization of the High Plains region.

⁸ 1928, p. 394.

⁹ The following material is primarily drawn from two papers, *An Introduction to Pawnee Archaeology*, by W. R. Wedel, and *An Introduction to Nebraska Archaeology*, by W. D. Strong, to be published as *Bulletins of the Bureau of American Ethnology*. Material from a third paper, *Signal Butte, a Stratified Site in Western Nebraska*, now in course of preparation by W. D. Strong and M. E. Kirby, is also included.

water and fuel are abundant, and the conditions for agriculture excellent. It is at present the most heavily populated portion of Nebraska and its advantages would have appealed to horticulturally minded Indians as well. To the west is the great central Loess Plain or "tall grass prairie" crossed by such rivers as the Republican, Blue, Platte, and the branches of the

TABLE 1. APPARENT SEQUENCE OF CULTURE IN NEBRASKA

(East) Historic	<i>Glacial area</i> Sedentary Siouan	<i>Loess plains</i> Pawnee	<i>Sand hills</i>	<i>High Plains</i>	(West)
			Dakota, Arapaho and Cheyenne		
Proto-historic:	?	Pawnee	Comanche	?	
Prehistoric:	Nebraska culture	Upper Republican culture	?	Upper Republican culture (?)	→ Top level III
	Sterns Creek culture			(Signal Butte site, stratified) Signal Butte culture →	Middle level II (culture?) Bottom level I
			(Artifacts associated with extinct bison—geological age?)		
Pleistocene					

Loup. Supporting a rich grass cover and vast game herds, this was also a region highly favorable for agriculture, with rich soil and adequate precipitation. Extending east from the High Plains, north to just beyond the Platte, and south far beyond the state boundaries, this Loess Plain area comprises the heart of Nebraska. Around the headwaters of the Loup forks, and north of the Platte, is an irregular central area of some 18,000 square miles designated as the Sand Hills. This is a thin grass country of shifting sand dunes, unfavorable for farming and offering relatively few inducements for modern occupation. The sand hill lakes, however, swarm with waterfowl, and formerly game of larger size must have been abundant. Its main drawbacks from the primitive standpoint would seem to be difficulty of travel, scarcity of fuel, and inadequate soil and precipitation for horticulture. Bordering the Sand Hills and Loess Plain to the west are the

High Plains extending to the north, south, and west, beyond the state boundaries. The High Plains region may be characterized as a short grass country, with grama grass, buffalo grass, and various grass-like sedges predominant. In its rougher and higher portions are scattered yellow pines, which on the Pine Ridge and similar areas are numerous enough to form small coniferous woodlands. Owing to lack of precipitation the High Plains would offer few inducements to horticultural people, though the presence of large herds of bison and antelope should have appealed to hunters. Such in sweeping outline is the environmental background.

If the territories of the various Nebraska tribes in the early part of the nineteenth century are considered, a rather remarkable correlation between natural areas and tribal domains becomes apparent (table 1). First, the Pawnee during this period held the heart of the state, including almost all the Loess Plain area. The Omaha and Oto (Dhegiha and Chiwere representatives of the Siouan stock) occupied the entire Glacial area, while the related Ponca border on this area to the north and west. The Dakota controlled the northern High Plains region and the western part of the Sand Hills, while the Arapaho and Cheyenne exerted a transient control over the southwestern High Plains in Nebraska. The Comanche (or Padouca) formerly occupied the heart of the Sand Hill region but had moved far to the south and west prior to 1800. Following their departure the Sand Hills seem to have served mainly as a buffer area between tribes. It is undoubtedly significant that the two richest agricultural regions, the Glacial area and the Loess Plains, were entirely occupied by sedentary and horticultural Siouan and Caddoan tribes respectively, while the nomadic buffalo-hunting Dakota, Arapaho, and Cheyenne occupied the elevated and rather sterile High Plains where game was formerly abundant. A major problem of the Plains area is here outlined: Was the pre-Caucasian mode of life horticultural and sedentary, or based primarily on hunting and thus nomadic? In other words, among the historic peoples do the Western Dakota or do the Pawnee most closely represent the norm of aboriginal culture in the Great Plains prior to Caucasian interference? This question brings us to the archaeological record.

The method of proceeding from the historic to the prehistoric in American archaeology was emphatically set forth by Dixon some years ago¹⁰ and, as indicated, was recommended for the Plains area by Wissler even earlier. Its merits are obvious and its scientific philosophy of procedure from the known to the unknown unassailable. In recent research in Nebraska the

¹⁰ R. B. Dixon, 1913, pp. 549-577.

study of historic Pawnee archaeology has so far been basic.¹¹ Pawnee archaeological remains of *circa* 1800 consist of large villages situated along the Republican, Platte, and Loup rivers in southern and central Nebraska. These villages are composed of large round earth-lodges with floors just below the surface of the ground. Characteristically the lodges have six central posts and an outer row of outward-slanting posts. Each has a post-lined entrance passage to the southeast, and earth altars occur opposite the entrance in some lodges. Cache pits or corn cellars occur both inside and outside the houses, and external horse corrals have been noted. Formerly these villages were surrounded by sod walls, but of these few traces still exist. Burial grounds in which occur individual semiflexed inhumations are located on hills back from the villages. Early trade material and very abundant horse remains are found in all these villages. Intermingled with this type of material are native artifacts. Pawnee pottery of the early nineteenth century is very distinctive. It is hand-molded, perhaps with paddle and anvil stone, and is hard in texture, with grit tempering. In color it ranges from light buff to gray and is without a slip save for a uniformly small percentage of the ware, which is stained with red ocher on the inner surface. Cord markings occur on the outer surface of some vessels, but these are usually almost obliterated by subsequent rubbing. The pots are characterized by an abrupt collar, often decorated with incised triangles, chevrons, and herringbone designs. Often tabs extend from the collar to the shoulder of the vessel, in many cases forming a series of loop handles. The ware of this period is poorly modeled and the designs are extremely irregular and careless. The fixed tradition of form and decoration, combined with a fundamentally advanced pottery technique, is in marked contrast to the lack of interest displayed in finish and decoration. The pottery makers of this period seem to have lost interest in their work, and the ceramic art appears as a dying industry, formalized and decadent. Especially characteristic of the Pawnee in this period are large, crude quartzite scrapers, grooved mauls, rubbing stones, catlinite elbow pipes, incised slabs of catlinite, bison-rib shaft straighteners, elk-antler hide scraper handles, "paint brushes" of spongy bone, bison-rib beaming tools, toothed fleshers of bone, and cylindrical "ear ornaments" of shell. Space is lacking in which to list other historic Pawnee artifacts, such as the omni-

¹¹ A study in which Mr. A. T. Hill, of Hastings, Nebraska, is the leading exponent (see Wedel, *op. cit.*). By historic sites are meant those for which documentation exists. The historic and protohistoric cultures of the sedentary Siouan tribes, however, are as yet undefined archaeologically. Their precise determination would seem to be the next logical step in Nebraska archaeology.

present scapula hoe, which occur in other protohistoric and prehistoric Nebraska cultures as well. Absent from the historic sites, however, are many types of fine flint, bone, and shell artifacts characteristic of earlier cultures.

Along the Platte and Loup rivers a few earlier protohistoric sites have been distinguished which contain strong evidence of Pawnee culture.¹² Since these sites so far examined are without horse remains yet contain a few Caucasian artifacts, they can be dated as earlier than 1682, when horses were abundant, and subsequent to the Coronado expedition of 1540, thus giving this phase of the culture an approximate date of 1600. The villages are very large, and are marked by numerous refuse heaps that are still visible despite many years of plowing. The earth-lodges are closely similar to those of historic times but have a characteristic 4-post central foundation and in some cases are larger and more elaborate than the later houses. Other internal features are much the same. The protohistoric burial complex is not yet clear. The ceramic remains in these villages are similar to those of the historic Pawnee sites but more abundant, more complex, and incomparably better finished.¹³ While typical collars occur, broad loop handles (often in series) are more characteristic, and the decoration of lips, rims, and handles with angular incised designs is very pleasing. The paste and tempering is the same as in historic Pawnee ceramics, and the same small proportion of sherds with ochre-stained inner surfaces occurs. This is a relatively advanced ware of considerable complexity, comparable in degree of finish with the best-known Arikara and Mandan ceramics. As for the relationship of this older culture to that of the historic Pawnee, the former contains just one-half of the peculiarly characteristic Pawnee artifact types, namely, a more abundant and richer but similar ceramic type, large side scrapers of quartzite, grooved mauls, catlinite elbow pipes, bison-rib shaft straighteners, and toothed fleshers of bone (the latter rare in protohistoric sites, however). Besides these, the cultures share many common artifact types, such as chipped celts and hoes, hammer stones, rubbing stones, pecking stones, shaft polishers, bone awls, bone and antler picks, bone beads, and scapula hoes. On the other hand, the protohistoric culture is especially characterized by tiny triangular arrowpoints, flaked stone knives, an abundance of short end scrapers, T-shaped chipped stone drills, platform and clay pipes, and antler and bone bracelets. Moreover, the protohistoric Pawnee sites are richer in every regard, save Caucasian artifacts,

¹² By protohistoric is implied a site where small amounts of early Caucasian artifacts occur but for which no documentation exists.

¹³ Holmes, 1903 (figs. 78, 79, and Pl. 177) figures pottery from one of these sites.

than the historic Pawnee sites. Archaeology, therefore, indicates that the advent of the horse introduced a general cultural decline among the Pawnee, at least insofar as the material culture can be relied on. It also indicates that the great period in Pawnee culture came about 1600 rather than in the period from 1700 to 1800 as stated by Wissler.¹⁴ This difference of a century or so, however, does not in itself disprove Wissler's suggestion that the florescence of Pawnee culture may have been connected with the earliest indirect white contact. Prior to the protohistoric period in Pawnee development comes the period of small villages, and it is possible that the advent of the white man, in some obscure way, led to their amalgamation into the large protohistoric villages.

These small villages occur in considerable numbers along the upper Republican river and its branches and are especially numerous in the lower Loup drainage. Judging from the imperfectly known distribution of the ceramic type found at these sites, the culture extends in various phases as far west as eastern Colorado and Wyoming, north into South Dakota, and south into Kansas. It does not occur along the Missouri river in Nebraska, so far as known at present, but seems to be confined to the Loess Plains and the eastern edge of the High Plains region. Sites of this type have so far been intensively investigated on the upper Republican river in south central Nebraska and on various branches of the Loup river. The culture has been tentatively called the Upper Republican, although there is reason to believe that when more is known concerning it, we may safely designate it as prehistoric Pawnee. All sites of the Upper Republican culture have so far proved to be entirely prehistoric. In the central and southern part of its extent this culture is characterized by medium to small earth-lodges, of which the majority are square in outline. Round earth-lodges occur in a minority, however, and the 4-post central foundation, post-lined entrance ways, internal and external cache pits, and other features of both types are identical. These features are likewise shared with the protohistoric Pawnee, though the latter houses are always round. Upper Republican interments consist of ossuaries on the tops of hills or bluffs where previously exposed fragmentary human remains and various artifacts have been deposited in large pits. The transition between the individual burials of the historic Pawnee and these prehistoric ossuaries is not yet clear, though full knowledge of the protohistoric cult of the dead may bridge the gap.

Pottery is abundant in these prehistoric sites; in color, texture, and tempering it is similar to later Pawnee types and is especially characterized

¹⁴ 1914, p. 15.

by an overhanging collar with incised designs. As in the historic and proto-historic Pawnee ceramics, a small proportion of the sherds have a red ocher stain or slip on the inside. The Upper Republican ware is usually clearly marked on the outside with cord-wrapped paddles. Unlike the later wares, handles are very rare, especially in Republican river sites. The Loup river pottery characteristically has cord-mark designs on the collar instead of incisions, strongly suggesting an Arikara and Mandan type of rim decoration. Besides pottery, Upper Republican culture sites yield abundant elbow pipes cut from soft stone (not catlinite); rare pottery pipes; sandstone shaft polishers; discoidal hammerstones without any groove; two types of triangular arrowpoints (a medium-sized, rather rough type and a very small and delicate notched type), abundant small end scrapers; small side scrapers; oval, triangular, and diamond-shaped flaked knives, the latter often beveled, chipped celts and, very rarely, polished ones. Bone and antler work is abundant and well finished, including incised bracelets, small fishhooks, antler punches, and perforated shaft straighteners, scapula hoes, and other types too numerous to mention here. Shell ornaments are fairly numerous, including cylindrical and disk shell beads, claw-like pendants, and ornaments cut from the shell of the Gulf coast conch. In one ossuary wooden disks covered with native copper were found. Large quartzite hide scrapers, toothed bone fleshers, elbow type antler scraper handles, beaming tools, bone "paint brushes," and catlinite pipes, all "typical" historic Plains types, are lacking. Not only the house and burial types but also the more specific traits such as Gulf coast shell ornaments, certain designs, and the horticultural basis of life revealed in the Upper Republican culture suggest attenuated Southeastern connections.

Judging from the depth of soil accumulation over both types of sites, the Upper Republican people were contemporary with another strictly pre-historic group occupying the Glacial area along the Missouri river in Nebraska. This second horizon has been termed the Nebraska culture.¹⁵ Like the Upper Republican culture, the contemporary people to the east lived in small, scattered, and undefended villages. Nebraska culture sites have been reported from northeastern Kansas as far north as central Nebraska, but never at any great distance from the bluffs of the Missouri river or adjacent streams. These people lived in semisubterranean earthlodges which are characteristically square or rectangular in outline, though a few round or oval houses have been reported. In the greater depth of these

¹⁵ First described by R. F. Gilder and named by him (see R. F. Gilder, 1926). The culture has been most extensively investigated by F. H. Sterns, 1914, but his full results have unfortunately never been published (see 1915 a).

houses, the irregular nature of inside posts, the lack of entrance passageways in many cases, and certain other features. Nebraska culture earthlodges differ from those of the Upper Republican people, though the general form is much the same. The Nebraska culture houses, so far as reported, had only internal cache pits, though these are very numerous. There is a suggestion that these people erected low burial mounds; at least the previously exposed dead were deposited in small natural eminences, and it is possible that careful excavation will establish the artificial nature of some of these. Two charnel houses of this culture have also been reported. In range of artifact types the two prehistoric cultures are much the same, though the Nebraska culture is characterized by pottery rather than stone pipes. These pottery pipes are of a semi-elbow type and are often elaborately modeled in realistic forms. On the whole, the Nebraska culture is the richer of the two, both as to range and elaboration of artifacts.

The pottery of the Upper Republican and Nebraska cultures is distinct, though an obscure blending of the two seems to occur in certain northeastern Nebraska sites which await full investigation. Briefly, Nebraska culture ceramics are reddish brown in color, grit-tempered, and often fairly well polished. Decoration is mainly effected by the modeling of rims and secondary features. Lugs and handles are very common, and collars are very rare. Incising occurs on the upper body of some of the pieces but never on the rims as in the Upper Republican and Pawnee cultures. The vessels range in size from very large to tiny pots, whereas the Upper Republican (and Pawnee) vessels are small to medium in size. Not only the pottery, but also the abundance of charred maize and other vegetal remains, as well as the very numerous bone hoes testify to the horticultural basis of life at these Nebraska culture sites. There is evidence of contact between these two prehistoric cultures but, so far as present evidence is concerned, they would seem to have been distinct peoples. The Nebraska culture coincides so closely with the historic Siouan occupation of the Glacial area and shows so many similarities to presumably Siouan horizons to the east, that one is tempted to regard it as evidence of a Siouan movement along the Missouri prior to the Dhegiha and Chiwere occupation. This should become clear when the archaeology of the historic and protohistoric Siouan tribes in the general region has been investigated.

At the Walker Gilmore site, just south of the junction of the Platte and the Missouri in Nebraska, Sterns investigated an interesting stratification of cultures.¹⁶ Here the prehistoric Nebraska culture overlies an earlier hori-

¹⁶ F. H. Sterns, 1915.

zon which I have designated as the Sterns creek culture. While the exact age of each horizon remains to be determined, the Sterns creek culture appears to be the older of the two by several centuries. Up to the present the Sterns creek culture is unique in Nebraska, though it seems to have affinities with sites across the Missouri in western Iowa. Particularly characteristic of this horizon are small surface houses (now covered by some sixteen feet of alluvium) with reed-thatched roofs, small poles, and possibly bark walls. Equally distinctive is the pottery, which is sand-tempered and crumbling rather than flaking in texture. The ware lacks handles or lugs, body cord markings, incisions, or collars. It is gray-black to buff in color, smooth or grass-marked on the outer surface, and decorated around the rim by delicate "pie crust" scallops or, very rarely, by simple designs made with small pieces of heavy cordage. The few complete or restorable vessels have conical or round pointed bases. Stone artifacts are scarce. One portion of an excellent polished celt or ax, a few chipped celts or hand picks, hammerstones, crudely retouched knives and side scrapers, and a few notched and plain triangular arrowpoints have been recovered. Bone and antler work, on the other hand, is excellent, including awls, needles, knapping tools, antler picks, bone beads, and hollow phalange "ring and pin" game pieces. Especially notable is the presence of abundant squash and gourd remains but, so far as Sterns' or my own investigations extend, no trace of maize. Moreover, deer bones predominate over those of bison, as is also the case in the Nebraska culture.

Comparable in importance to the Walker Gilmore site in eastern Nebraska is the recently discovered stratified site at Signal Butte on the North Platte in extreme western Nebraska. Here, on top of an isolated mesa, occur three levels of human occupation separated in each case by some two feet of barren aeolian deposit. The uppermost occupation level below the grass line is prehistoric and contains pottery and artifact types suggesting some definite connection with the Upper Republican culture. Stone-lined graves for both complete and partial burials were also encountered. The middle level is very definite but quite thin, and too few artifacts have been recovered to permit a definite cultural assignment at the present time. The lowest level is thick and rich, consisting of a series of open hearths with cache pits dug down into the underlying sand and gravel. Graves were not encountered, but one fragment of human jaw was found. The artifacts from this lowest level include two types of arrow or small dart points (abundant leaf-shaped type with a concave base and a less abundant stemmed type with shoulders and a concave base), large leaf-shaped knives or spears, often with a straight base, large retouched

flake knives, three types of end scrapers, numerous side scrapers, T-shaped stone awls, numerous ungrooved hammerstones, rare grooved hammerstones, numerous rubbing-stones, rare shaft-polishers of sandstone, flat awls cut from sections of rib, a few rounded awls, bone beads, rare worked shell, and fragments of geometrically incised bone. Pottery was entirely absent in both middle and lowest levels. The lowest human occupation level rests on water-borne material laid down during an early period of precipitation when the butte was still connected with the main escarpment to the south. Whether a time break occurs between the water-borne materials and the earliest human occupation remains to be determined, but an early post-Pleistocene dating from this horizon seems probable. Owing to the unique nature of the abundant artifacts from the lowest level on Signal Butte the complex thus revealed has been designated as the Signal Butte culture. It seems significant that the medium-sized leaf-shaped points, so abundant in this culture, are of the same general form as those which have been found with extinct species of mammals in Nebraska and elsewhere, whereas the tiny chipped points from the upper level are characteristic of both the Upper Republican and the protohistoric Pawnee culture. Such linkages appear to cover considerable time periods and give fair promise of establishing definite typological sequences and chronologies for the pre-history of central North America when more work has been accomplished.

Perhaps older than any other human evidence yet uncovered in the Great Plains are the recently reported cases of association between artifacts and fossil bison in Nebraska.¹⁷ It is significant that the medium to large arrow or dart points found with remains of extinct bison at Cumro, Grand Island, and recently just below Signal Butte, are of the same general type. Likewise their very general similarity in size and outline to those from the Folsom quarry in New Mexico is suggestive. When the geological age of the Nebraska finds has been generally agreed upon this type of point will probably be assignable to an early and as yet undescribed culture in the region. However, one cannot describe a culture on the basis of a few unique artifacts, and until living levels characterized by the presence of such artifacts have been uncovered we shall not know a great deal about the earliest Nebraska hunters. Since the time of extinction of the various bison species is uncertain, it remains for the glacial geologist to correlate definitely the horizons in which such associations occur with others of known age in glaciated regions. The final decision regarding the age of these discoveries rests with the geologist rather than the paleontologist or anthropologist.

¹⁷ For brief references to these discoveries see Science Service Research Announcements No. 130, June 27, 1932, and No. 140, August 8, 1932.

The present venture into the archaeology of one state in the central Plains area reveals two outstanding features—first, the almost infinitesimal amount of actual archaeological work yet accomplished in the general region, and second, the surprising amount of work to be done, as well as the breadth and depth of the prehistoric scene that is opening up. Dimly seen at the bottom of the time scale are evidences of early hunters associated with now extinct species of bison, presumably in early Recent or late Pleistocene times. Somewhat later in western Nebraska, an apparently related hunting culture is revealed in the lowest stratum at Signal Butte. As was expected, the dawn of the prehistoric period finds man intimately related to the great bison herds of the region. Thus the prediction of the earliest New World hunters occurring in this central area seems about to be fulfilled.

The next type of evidence revealed by archaeology has not been generally predicted by theorists. This is the early appearance of at least semi-horticultural peoples in the central Plains. Strange to say, it is a Woodland culture of northeastern affiliations that occurs on the eastern border as the earliest known occupation of this sort in Nebraska. This was demonstrated by Sterns's discoveries at the Walker Gilmore site; and the fact that Sterns creek culture is apparently related to the "Algonkian" and Lake Michigan cultures of Iowa and Wisconsin is undoubtedly significant. Overlying this horizon in eastern Nebraska is the prehistoric Nebraska culture which extends over the rich glacial area later claimed by the Ponca, Oto, and Kansa. This culture appears to be identical with the recently distinguished Glenwood culture in western Iowa and less closely related to the prehistoric Oneota and Mill creek cultures of that state.¹⁸ It likewise bears many resemblances to the Upper Mississippi culture of Wisconsin. Since the archaeology of the historic Siouan tribes in Nebraska is totally unknown at present it is impossible to correlate positively any of them with the prehistoric cultures. Nevertheless, since the Nebraska culture is markedly different from that of the Pawnee in any known period and also affiliates most closely with what are believed to be Siouan cultures in Iowa and Wisconsin, there is reason to suspect that the Nebraska culture may be Siouan in origin.

In the central and western portions of Nebraska occurs an extensive occupation by slightly differentiated groups, here designated as the Upper Republican culture, which appears to have been more or less contemporaneous with the Nebraska culture to the east. From its relationship to the pro-

¹⁸ Chas. R. Keyes, 1929. For Wisconsin see W. C. McKern, 1931.

tohistoric and historic Pawnee it has been suggested that the Upper Republican culture was ancestral to the Pawnee and perhaps to the Arikara as well. Both the Nebraska and Upper Republican cultures were at least semihorticultural and, in general, exhibit attenuated characteristics of the Southeast. This is indicated by the occurrence of both square and round earth-lodges,¹⁹ the general type of ceramics employed, the occurrence of certain types of artifacts and symbolic designs, and the use of ossuaries in disposing of the dead. Unfortunately too little is yet on record concerning the archaeology of Kansas and Oklahoma immediately to the south to permit any definite correlation with specific Southeastern cultures. From the standpoint of our immediate area this occurrence of a period of as yet undetermined duration in which horticulture was as important as hunting is surprising. Instead of being confined to a narrow strip along the Missouri river, this type of life flourished in strictly pre-Columbian times over an area extending some 400 miles west of the Missouri in Nebraska and 200 miles west of that river in South Dakota. So far evidences of this prehistoric cultural type have been found as far west as Signal Butte in the first state, and by Mr. Over in the Ludlow cave in extreme northwestern South Dakota. Finally, from the distribution of these sites along the lesser waterways of the region it would seem that the southeastern influences had followed up the rivers and streams into the north central Plains.

The lack of any Pueblo influences, at least north of Kansas, is very marked, and it thus appears that prior to the acquisition of the horse the barren High Plains to the west and the Staked Plains to the south served as definite barriers between the central Plains and the Southwest. It may be added that, contrary to various striking ethnological parallels, the material culture of the protohistoric and historic Pawnee seems to be utterly alien to the Pueblo cultures of the Southwest. Apparently these ethnological parallels can best be explained on the basis of a common origin in Mexico and separate lines of diffusion to the north, but this discussion is beyond our present scope.

Taking the bare outlines of Nebraska prehistory as a tentative cross-section of the Plains area generally, it appears that pure hunting cultures dominated the region during two main periods. The first of these began with the men who hunted the extinct species of bison and extended for an indefinite period beyond; the second began with the introduction of the horse and ended with the extinction of the bison. Between these two, which mark the beginning and the end of Plains Indian history, it now appears that

¹⁹ Compare Harrington, 1920, pp. 256-259, 291-297.

there was a third period of considerable but as yet undetermined duration when horticulture played at least an equal part with hunting in the economic life of the central Plains. It is this horticultural stage in Plains culture which has been overlooked or disregarded in the majority of ethnological theories bearing on the region, Kroeber's remarkably accurate analysis being a marked exception in this regard.

In the light of the archaeological evidence it appears that the horse culture of historic times spread like a thin and strikingly uniform veneer over the central Plains, bringing with it many traits more typical of the forest-hunting regions to the north than of the prehistoric Plains themselves. Given the horse, the Plains with their vast bison herds could not be resisted, and in the course of a century or two a new mode of life developed, involving many peoples that were apparently relative strangers to the region. Added to the lure of horses and bison hunting was the gradually increasing pressure of an alien culture. Thus, while the bison herds drew newly mounted tribes to the west, the guns of the traders in the hands of enemy tribes to the north and east discouraged loitering. Only the fortified villages along the main rivers could withstand the pressure of hunters and warriors; hence when the French and American explorers entered the region, the warlike nomadic tribes were completely in the ascendancy, while the more advanced semi-horticultural villagers had already been crowded back into a narrow strip along the Missouri and its branches.

If the prehistoric situation revealed in eastern and central Nebraska is typical, it is obvious that the historic period did see a complete reversal of Plains cultural values. Prior to the coming of the horse it was the village tribes that prevailed in the area; afterwards the border tribes or late invaders held the balance of power. Thoroughly motile, possessed of an apparently unlimited meat supply, having nothing to lose from war and almost everything to gain, such peoples as the Comanche, Crow, Gros Ventre, Blackfoot, Kiowa, Assiniboin, and Teton Dakota completely dominated the scene. The others, like the Mandan, Arikara, Pawnee, Ponca, Omaha, and Oto, clung to what they could of the old settled and horticultural life or else, like the Arapaho and Cheyenne, gave up the attempt and took over the entire horse complex with its correspondent nomadism and parasitism based on the buffalo herds. In Nebraska, to judge from the archaeological and historical record, such tribes as the Pawnee attempted to compromise between the two types of life and apparently failed at both. It can be said, therefore, that while the Dakota mode of life typifies the Nebraska area subsequent to 1650, the old Pawnee type was certainly predominant prior to that time. The same can un-

doubtedly be said in regard to the Arikara and Mandan on the upper Missouri, and this probably applies to all the central and eastern Plains.

One more fact remains to be stressed, namely, that the Plains area generally has produced or supported a considerable variety and succession of culture types, indicating that its environmental limitations are not so drastic as has often been believed.²⁰ Not only hunters but native horticulturists as well have flourished in the region, and the latter cultures, while relatively simple, do not exhibit that striking uniformity which characterized the mounted tribes of the region in the eighteenth and nineteenth centuries. Moreover, it is already apparent from the definite correspondence between tribal cultures and geographic areas in Nebraska during the early historic period that even this one state contains several distinct topographic regions quite capable of shaping human culture. Hence the much stressed uniformity of Plains culture in its closing phase was in the main the result of historic forces rather than the direct result of environmental control.

In conclusion, it can be said that the prevalent concept of the Plains culture area seems to have been based primarily on the ethnology of the hunting tribes. It is therefore one-sided and subject to correction. When coordinated and reasonably complete ethnological studies of such peoples as the Arikara and Pawnee are available, the historic picture will be better balanced. This may only be done by immediate field work combined with intensive historical research. Almost as urgent is the need for adequate archaeological research in the Dakotas, Nebraska, Kansas, and Oklahoma before plow and relic hunter destroy or obscure the prehistoric record. Here is one of the four most important archaeological areas north of Mexico which is still practically unknown. The Great Plains, therefore, appear as an extremely promising field wherein the closely coordinated researches of historian, ethnologist, archaeologist, geographer, and geologist seem certain to throw a flood of light upon the antiquity and development of man in the New World.

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²⁰ For example, see W. P. Webb, 1931.

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WHILE I attach little importance to agreement when moot-problems cannot be settled by crucial experiments, I am eager to *understand* fellow-anthropologists. The following remarks embody some of my fears that I have failed to do so. I hope they will evoke clarification from those to whom they are addressed.

STABILITY

Studies of the dynamics of primitive life also show that an assumption of long continued stability such as is demanded by Elliot Smith is without any foundation in fact. Wherever primitive conditions have been studied in detail, they can be proved to be in a state of flux. . . . It is exceedingly improbable that any customs of primitive people should be preserved unchanged for thousands of years. Furthermore, the phenomena of acculturation prove that a transfer of customs from one region into another without concomitant changes due to acculturation, are very rare. It is, therefore, very unlikely that ancient Mediterranean customs could be found at the present time practically unchanged in different parts of the globe, as Elliot Smith's theory demands.¹

This statement by Professor Boas puzzles me because it seems inconsistent with his proof of an ancient connection between the tribes of Coastal British Columbia and the Paleo-Siberians. The argument rests on the intensive similarity of their mythologies: from this resemblance Professor Boas infers a comparatively recent Eskimo intrusion into Alaska and an exceedingly ancient connection (*eine uralte Verbindung*) between the Indians and the Paleo-Siberians.²

Does this, or does this not, imply stability of the common stock of myths? If so, what becomes of the opposition to Professor Elliot Smith? Surely, the phraseology used suggests preservation during a space of several thousand years. But Elliot Smith makes no greater demands: Egyptian civilization spread, he argues, only with the rise of navigation; before that period non-Egyptians lived largely on a simian plane.³ This may be an erroneous assumption, but where is the difference in point of stability?

I have a personal interest in this matter. For several years I have noted evidences of ancient connection between North and South America. Nordenskiöld's parallels⁴ strike me as highly stimulating, though of very

¹ Franz Boas, *The Methods of Ethnology*, AA 22: 317 f., 1920.

² *Id.*, *Die Resultate der Jesup-Expedition*, Sep. Abdruck aus Verh. XVI Internat. Amer. Congr., Wien 1909, p. 12 f.

³ G. Elliot Smith, *In the Beginning*, 20-22, 31, 1928.

⁴ Erland Nordenskiöld, *Comparative Ethnographical Studies* 9: 77, 1931. *Id.*, *Spiele und Spielsachen im Gran Chaco und in Nordamerika*, ZE 42, 1910.

unequal value. For example, the solitary South American (Argentine) instance of a sweat-bath is less like the North American equivalents than the latter are to the sweat-bath of sixteenth century Scandinavia.⁵ On the other hand stone-boiling by the Chono gains demonstrative value from the world distribution of cooking methods. While the Tasmanians knew nothing of boiling, innumerable North American tribes without pottery were able to boil in wooden, bark, hide, or basketwork containers. In South America pottery is widely distributed and thus supplanted stone-boiling, which naturally survived in the non-ceramic marginal region. But this plausible assumption again involves permanence. Why, however, should such stability be suspect when modern Basques of Guipúzcoa boil milk by dropping hot rocks into wooden pails?

The following is the plot of a Selk'nam (Ona) tradition.⁶ A widower, enamored of his two daughters, feigns illness, predicts his death, bids them bury him so as to leave his head uncovered, and urges them to marry a man who resembles himself. After a while he pretends to die and is covered according to directions, while the daughters cry in mourning and then depart. When they have gone some distance the father rises and makes a détour so as to meet them from the opposite direction. Though one of the girls suspects the identity of their suitor, they marry him; and all three are transformed into guanacos.

The resemblance to a widespread North American trickster tale is patent.⁷ How does this motif happen to turn up in Tierra del Fuego? Recent contact is excluded. Nordenskiöld, to be sure, has suggested that the early immigrants reached Tierra del Fuego with remarkable rapidity, but he hardly supposed the Ona and the Ute to have lived in close proximity in, say, 1000 A.D. The alternative explanation is stability.

The story of the paternal lecher is not the only bond between Tierra del Fuego and North America. Yahgan tradition presents the classical dualism so marked in Californian and Basin mythology.⁸ One of two heroes wishes to have fire-making and hunting made easy for mankind: a mere glance shall suffice to bring down birds, and harpoons shall never be lost or broken. Further, men shall grow old but be revived. But the marplot brother insists on introducing labor and death. Are these accidental re-

⁵ Truels-Lund, *Dagligt Liv i Norden i det 16de Aarhundrede*, Bønder og Kjøbstadboliger, 320-322, 1880.

⁶ Martin Gusinde, *Die Selk'nam, vom Leben und Denken eines Jagervolkes auf der Grossen Feuerlandinsel*, 650-652, 1931.

⁷ See H. Schmerler, in *JAFI* 44: 196-207, 1931.

⁸ W. Koppers, *Unter Feuerland-Indianern*, 202 sq. 1924.

semblances, due to psychic unity? If so, why is their world distribution restricted? If they have a single source, the tale has remained unaltered for a considerable period.

Apart from myth, Tierra del Fuego exhibits at least two distinctive features reminiscent of North America,—the drinking-tube and the scratching-stick, both connected with puberty initiation.⁹ In other words, a series of specific Fuegian traits is paralleled thousands of miles to the north. The scratcher even occurs also in the intermediate tropical forest region.¹⁰ I postulate a single origin for these traits and the myths. This implies that customs and beliefs *can* preserve much the same form over long periods of time. No one asserts that they are always and everywhere fixed. What I want to know is: What conditions make for stability? What conditions determine fluidity? And, generically, are any conclusions of historic depth (e.g. as to connections between Siberians and British Columbians) possible *without* assuming stability?

EVOLUTION AND THE KULTURKREISLEHRE

In general tendency Father Wilhelm Schmidt's position is unquestionably anti-evolutionary. His discussion of the matrilineal *Kulturkreis*, however, is wholly evolutionistic, schematic, unhistorical, and full of a priori psychologizing.¹¹ If I have misinterpreted it, I shall be glad to be corrected.

Father Schmidt postulates an "inner connection" between the origin of farming and mother-right. Because woman invented cultivation, she came to be owner of the products of the soil and of the land itself. Because of this economic ascendancy, residence became matrilineal and descent matrilineal. The supreme deity was conceived as feminine, girls' puberty rites were stressed to the exclusion of boys' initiation, the couvade marked the acme of gynecocracy. But in reaction to extravagant feminisim the men organized in societies for terrorizing the other sex; and by progressively enforcing bride-purchase instead of matrilineal bride-service they inaugurated patrilineal residence and, ultimately turning the tables on the women, achieved "the most absolute patriarchate."

My difficulties are twofold. In the first place, there is no historical proof of any such organic connection between economic activity and social hegemony. Such economic determinism is sheer a priori speculation. The Hopi and Zuñi recognize feminine ownership of real estate, but the bulk

⁹ *Id.*, *op. cit.*, 89.

¹⁰ Th. Koch-Grunberg, Vom Roroima zum Orinoco 3: 130, 1923.

¹¹ W. Schmidt and W. Koppers, *Volker und Kulturen I* Gesellschaft und Wirtschaft, 88, 264 sq., 295. 538 sq., 1924

of their farming devolves on the men, as in all American areas of intensive husbandry. The Iroquois women enjoy unusual privileges, even in the political sphere, but they certainly did not invent maize-planting, which must have come to them from the southern regions of masculine tillage. Moreover, in this extreme case of feminine influence there is no suggestion of a men's protective organization. Are we to assume that, if left undisturbed by Caucasian civilization, the men *would* at some time have organized? If so, how does this differ from Morgan's law of historical evolution?

Belief in such a law is indeed strongly suggested by explicit references to stages of the development in its entirety—"Stufen der ganzen Entwicklung" (p. 266). In the incipient stage a man visits his wife in her parents' home; in the second stage (*auf der zweiten Stufe*) he surrenders to the matrilineal principle; there follows a decline in the matriarchate, the husband merely staying with his parents-in-law temporarily by way of bride-service; and in the fourth stage, gifts supersede service, i.e. bride-purchase and patrilineal residence evolve.

I can detect only one difference between this and Morgan's schematism. Morgan assumes a universal social evolution in accordance with his law; Schmidt restricts his sequence to that part of mankind affected by horticulture. But this difference does not alter the non-historical schematism of the theory.

I know that, metaphysically, Father Schmidt repudiates social laws (e.g., p. 26). My point is that, irrespective of such abstract disbelief, he formulates the matrilineal data precisely as if he espoused a law of social evolution.

But there is a second difficulty. *If* an organic nexus unites farming by women and mother-right, the sequence of events may be independently inaugurated an indefinite number of times with the dissemination of the solitary incipient member of the series. Let women invent horticulture in tribe A. What prevents its spread to B, C, D, *before* any matriarchal institutions have time to develop in A? Evidently nothing whatsoever. Now, *ex hypothesi*, feminine ascendancy results from feminine tillage. Hence, in each recipient tribe adoption of the latter sets up a parallel sequence of maternal descent, girls' puberty rites, female deities, . . . , terminating with men's clubs, wife-purchase, and the patriarchate. There would still be a single origin for farming, but the social correlates would arise independently over and over again in parallel series.

Query: Is it possible to affirm an organic bond between cultural phenomena and yet to deny the recurrence of one correlate together with its associated trait?

IRREVERSIBLE DIFFUSION

Most diffusionists—not only Elliot Smith and Perry, but also Sophus Müller, Kroeber, and Radin—operate with the principle of an irreversible stream of culture from a higher centre. The reasons are clear. Empirically, China, Egypt, Rome, have demonstrably spread civilization to ruder neighbors; a priori, an advanced technology is more likely to increase the stock of inventions. Nevertheless, complex cultures *have* borrowed from simpler ones: maize spread from America to Europe, felt and riding-boots from pastoral nomads to the Chinese; and so forth. Hence, though transmission from the higher culture is more probable, the direction of diffusion in a particular instance remains uncertain. Further, in the non-rational phases of social life, the advantage no longer lies with the superior technology: the couvade and the mother-in-law taboo are a priori as probable on one material plane as on another.

This, however, is not what troubles me at the moment. The difficulty before me is the following. The theorists I am addressing start their diffusioning at a point of time when some one culture is immeasurably superior to its neighbors. With that assumption, everything is of course in favor of an irreversible flow. For instance, are novices likely to teach new devices to potters or weavers who have practised these arts for centuries? What I am concerned about are the *preceding* stages. Every civilization has its nascent period; and at that stage the odds are not one-sidedly in its favor.

Are not the observed facts which we try to interpret the resemblances between a high culture, A, and its poorer sister, B? I see two alternatives to the conventional view of the latter as a passive recipient. In the first place, the common feature may antedate any difference in level. Why must animism in Australia be derived from Egypt? Why can we not refer it to an archaic substratum of Egyptian and other cultures? The former conclusion is indeed inevitable on the axiom that, prior to Egyptian navigation, all non-Egyptians lived like the apes. But for those who spurn the proposition, the corollary loses its stringency.

Secondly, the culture ancestral to A may as yet have gained only a slight ascendancy over proto-B. In that case nothing can be predicated as to who borrowed from whom. Omaha culture is somewhat more complex than that of the Dakota; nevertheless, the Omaha borrowed certain military societies from the Dakota. Instances could be multiplied *ad infinitum*: in the hypothetical circumstances there is a give-and-take,—not a shower of gifts from the cornucopia of the slightly higher people.

My query, then, is: Why are these obvious alternatives ignored in relevant discussion? Are we dealing with a transplanted survival of the

biological dogma that infinitesimal differences make for survival or destruction?

CONJECTURAL HISTORY

Professor Radcliffe-Brown is not a votary of conjectural history. If I understand him, he ascribes even to absolutely certain history a narrowly limited utility in the way of scientific illumination, and merely probable reconstructions are held proportionately less valuable.¹² However, anthropologists, like the subjects of their studies, do not always in practice conform to their theories. Hence a glance at what Professor Radcliffe-Brown does is more useful than pondering what he says he does.

The Yaralde system of kinship,¹³ we learn,

cannot reasonably be supposed to have developed independently of those [Aranda systems], . . . we must certainly assume some historical connection between them (pp. 51, 120);

there is

a further extension of some of the principles and tendencies present in the Aranda type (p. 122);

and the Yaralde idiosyncrasies are hypothetically derived from a greater density of population. Similarly, the Kumbaingeri type is said to be clearly related to the Kariera type, but at the same time represents a movement away from that type, and perhaps we may say, towards the Aranda system (p. 63).

Failing documentary evidence of these relationships, the quotations seem to embody "conjectural history." Striking resemblances are explained by a common source. Still more, is not a movement *from* one condition and *towards* another an emphatically historical process? In what sense are historical conjectures repressed when the author suggests a developmental sequence not directly verifiable? There is, to be sure, a sop to caution:

This does not involve the assumption that the Aranda system is derived historically from one identical with the existing Kariera system (p. 120).

But does this mean any more than the biologist's warning that *Homo sapiens* is not derived from any *living* anthropoid? Certainly, the preceding sentence defines the two systems as

two terms in an evolutionary process, for evolution, as the term is here used, is a process by which stable integrations at a higher level are substituted for or replace integrations at a lower level.

¹² A. R. Radcliffe-Brown, The Present Position of Anthropological Studies. Brit. Assn. Adv. Sc., Section H, 1931.

¹³ *Id.*, The Social Organization of Australian Tribes, The "Oceania" Monographs, No. 1, 1931.

But is that not history of a kind? And is it documentary? Leaving aside questions of relative probability or explanatory potency, how does it differ in principle from the sequential hypotheses of Father Schmidt and of Morgan?

But I scent still more historical reconstruction. On the one hand there is set forth the futility of speculating about the eternally unknowable details by which a society readjusts its integrative system (p. 113). Having, however, burned this much incense on the altar of anti-historical asceticism, Professor Radcliffe-Brown tempers his austerity by an exposition of the very steps by which the Kariera as "one of the simplest integrative systems in Australia" might have achieved "a wider integration." The individual Kariera male is concerned primarily with his own and his mother's horde, the latter providing him with a wife, viz. preferably his maternal uncle's daughter. But the social circle widens when a boy about to undergo initiation is sent on a grand tour to other hordes, eventually even to a distant tribe. This contact establishes permanent relations, nay, possibly supplementary marriages. I regard these suggestions of Professor Radcliffe-Brown's as anything but futile; however, they are assuredly speculations about details of "the widening of the social circle."

Have I completely misunderstood the author? Or is he really attempting "to conjecture the origin" of institutions or elements of culture, a practice he would have us taboo in comparative sociology? I am not interested in quibbles about the meaning of "institutions," "elements," and "origin." I should like to know whether Professor Radcliffe-Brown sometimes makes guesses as to why and how parts of culture change, and which of its features precede others.

LAW

An adequate sociological understanding or interpretation of any culture, can only be attained by relating the characteristics of that culture to known sociological laws.¹⁴

What are we to understand by such laws, then? In an older paper¹⁵ the following sample is exhibited:

any things that have important effects on the social life necessarily become the objects of ritual observances . . . the function of such ritual being to express, and so to fix and perpetuate, the recognition of the social value of the objects to which it refers.

¹⁴ Radcliffe-Brown, *The Present Position* . . .

¹⁵ *Id.*, *The Methods of Ethnology and Social Anthropology*, *South African Journal of Science* 20: 124-147, 135 f.

Whence this corollary: Among hunting and gathering tribes rituals cluster about the various species of animals and plants, "and more particularly those used for food."

To me this is not a law but a truism. Any one with the slightest knowledge of ethnography knows that the Eskimo connect ritualistic conceptions with seals rather than with mosquitoes; that Plains Indians charm buffalo, not prairie-dogs; that the Hopi worry over the magico-religious promotion of the maize crop rather than of cactuses. If the "law" goes beyond a summary of these descriptive trivialities, I shall apologize and gratefully accept instruction. The law of gravitation does not state that apples fall to the ground instead of levitating toward the sky; *that* was known before Newton. A law of ritual ought to predict for each culture which game animals and food plants figure ceremonially; it must explain why some rituals involve masquerade while others do not; why the Crow Indians, who do not even smoke *Nicotiana multivalvis*, have built up a complex ceremonial about it,—far more complex than the buffalo ritual.

Here is another law. In segmented societies [*vulgo*, in societies with clans], the segments [*vulgo*, clans]

tend to be differentiated from one another by differences of ritual, observances of the same general type for the whole tribe being directed to some special object or class of objects for each one of its segments.

Here, too, there is a corollary. In undifferentiated [*vulgo*, clanless] societies the ritual relationship is

a general undifferentiated relation between the society as a whole and the world of nature as a whole; in differentiated [i e. clan-organized] societies the general tendency is to develop special ritual relations between each of the social segments . . . and some one or more species of animal or plant.

What does the law add to the familiar fact that the several clans of a tribe conform to a common pattern? That the observances linked with one Winnebago clan resemble those of other Winnebago clans more than they do the rituals of Kariera or Baganda clans? A "law" ought to explain many things not quite so obvious. In what circumstances do clans tend to differentiate themselves ritualistically? Why are there clans without ritualistic functions? Why is a ritual of overshadowing importance, like the Plains Indian Sun Dance, linked not with clans at all, but with the tribe as a whole? Similarly, why is the Crow Tobacco ritual associated with an organization not based on clan affiliation?

The corollary bewilders me completely. It seems to say: Let us not expect clan rituals in clanless societies; let us expect them only in societies

divided into clans. The first half of this is tautology, the second half by its implications expresses only a partial truth, since there are rituals—even rituals concerned with food animals or plants in differentiated societies—that have nothing to do with the clans. What beyond my rendering is contained in the corollary?

Possibly a law as conceived by Professor Radcliffe-Brown is a law *sui generis*. The following sentence rather strongly suggests this surmise:

I have also indicated another important principle, which in this instance is a universal sociological law though it is not possible to formulate precisely its scope, namely that in certain specific conditions a society has need to provide itself with a segmentary organization. In Australia this need is met by the existence of moieties and clans.¹⁶

Who ever heard of a universal law with a scope that is as yet undefinable; of a law that works in certain specific *but unspecified* conditions? In other words, are we to consider it a law that societies sometimes develop clans and sometimes do not? Newton did not tell us that bodies either fall or rise.

L'ENVOI

Finally, for the benefit of the younger generation, a valedictory query or two:

How does one master a native tongue in three or even six months?

Does an observation in 1930 necessarily take precedence of one in 1870, 1800, 1700?

How probable is it that a trained field worker can in a season or two plumb depths inaccessible to predecessors who have lived with the same tribe for years and speak its language perfectly?

I personally have become increasingly humbler in my attitude towards older writers. I consider Hearne, Maximilian, Morgan (on the Iroquois) superb observers; and Kirchhoff has recently shown how much one can learn from earlier missionaries and explorers on the intricacies of social organization. In my special field I am encouraged when Curtis's data on the Crow support my own; I find that the notoriously mendacious Beckwourth proves accurate enough on modes of warfare; while from the trapper Linderman and the squawman Leforge I learn things I never learnt by myself. Leibnitz's words are sound counsel for the anthropologist: *Je ne m'éprise presque rien*.

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¹⁶ The Social Organization . . . , 109

HAS THE X-RAY A PLACE IN THE ARCHAEOLOGICAL LABORATORY?

By P. F. TITTERINGTON

REALIZING that the x-ray is beginning to be used in several fields outside that of medicine, it seemed opportune to experiment with archaeological specimens to learn if anything of interest could be determined. The idea was precipitated by the receipt of a flint spade much thicker than usual and containing several outcroppings of iron ore. The x-ray demonstrated an extensive network of opaque shadows, and numerous, isolated examples, showing that there was much more of the foreign material in the specimen than was visible on the outer surface. It also demonstrated how the foreign material prevented the specimen from being reduced to a spade of the usual thickness (pl. XIXa).

This led to the examination of approximately fifty spades, hoes, and large flint pieces, twelve of which showed from one to several isolated opacities. Since all the specimens were desirable, none of them was broken up for a more complete analysis of the substance causing the opacities, but a few of the opacities visible on the surface give the impression of iron concretions.

Several hundred arrowheads and knives were then examined, and no areas of increased density were noted. From this small series, it would appear that the opacities do not occur in the stratified flint and some of the finer-grained nodular flint, but do occur in the coarser-grained nodular flint such as is usually employed in the manufacture of agricultural implements. The majority of the implements examined are thought, from the localities in which they were found, to be made of material from the Mill creek quarry, Union county, Illinois, or at least a closely allied material.

Several specimens studied have seams through the flint. These seams cast a rather dense shadow, the cause of which is not definite.

Twelve pipes have been examined, demonstrating the bowl and stem holes. The chief value of this type of examination lies in the illustration of the location of the drillings. Dr. Don F. Dickson has a monitor pipe in which a flint drill-point was broken off before the stem-hole was finished. The x-ray shows the incomplete stem-hole in one end, the completed stem-hole in the other, and the hole in the bowl. The broken drill-point does not show because it is of lighter density than the material from which the pipe is made (pl. XIXb). In my collection there is a small platform pipe with a complete stem-hole drilled from each end. One of the holes is seen to pass some little distance beyond the base of the bowl (pl. XXa).

In the pipes examined which have rather long stems, the holes are seen to extend obliquely upward from the end of the stem to the base of the bowl. It would be interesting to note if this is a more or less constant factor in a large series.

A restored L-shaped pipe shows the restoration to have been made with a material considerably less dense than that of the pipe. The restored areas are painted to match the rest of the pipe, and in places the paint is sufficiently thick to cast a thin filmy shadow. The x-ray might be used in detecting some of the restorations made with intent to defraud.

The most interesting studies that have been made are on potsherds. The x-ray of pottery promises to serve primarily in determining the type and quantity of tempering in the walls between exposed surfaces. Approximately five hundred sherds have been examined, and some very striking differences in temperings have been demonstrated.

Grit temperings stand out as sharp shadows of increased density. A few Southwest sherds seem to have been tempered with a very fine grit, suggesting a fine sand. Some of the grit temperings of the southeast Missouri sherds are larger and smoother in outline, suggesting a coarser sand. Sherds from the Lake Michigan culture of Wisconsin have a grit tempering in which the grit is quite coarse and irregular in outline, the irregularity suggesting a freshly broken-up rock (pl. XXb).

Shell temperings produce a flaky shadow of less density than the grit, while the hole temperings cast the shadow that the name implies. The shadow of the hole-tempered ware is studded with small dark spots, the edges of some of which coalesce. Quite a number of badly disintegrated shell-tempered sherds in which the shell is still visible have been examined, and most of them cast the shadow of the hole-tempered ware with an occasional piece of shell demonstrated, indicating that the majority of the small pieces of shell are quite soft and have lost that property which makes them opaque to the ray. These findings tend to substantiate the theory that some of the hole-tempered ware is due to a disintegrated shell tempering (pl. XXI).

It is not uncommon to find very dense shadows smooth in outline, about the size and shape of BB shot, and smaller, in the shell-tempered ware. In cutting down upon them, some seem to be small iron concretions, while others seem to be small gravel; no thorough physical analysis has yet been made. However, it has been suggested that they might be natural in the clay rather than intentional. Small amounts of sand are commonly found in the shell-tempered sherds, and it is also thought to be natural.

Out of several techniques tried, those listed below have given us the



a



b

a. Flint spade $12\frac{1}{4}'' \times 5\frac{1}{4}'' \times 1\frac{1}{4}''$ to $1\frac{5}{8}''$ through the thickest part of blade. The edges and top have been obliterated by the x-ray due to their comparative thinness; the white, irregular shadows in the x-ray are due to the ore. In the photograph of the specimen an outcropping of the ore is visible in the left central portion of the specimen.

b. X-ray of Dickson pipe from above downward. The stem-hole in the left end is incomplete while that in the right is complete. The thin outer edges of the stem and bowl are seen in the original negative but have been lost in making the reduction.



a

b

a. Pipe. Two completely drilled stem-holes. The one on the left extends for some little distance beyond the base of the bowl. Note that the stem-holes extend obliquely upwards to meet the bowl.

b. The sherd on the left is from southeast Missouri and is sand tempered. The central sherd is from the Southwest, and is very fine sand or grit tempered. The sherd on the right is from the Lake Michigan culture of Wisconsin and is coarse grit tempered.

best results. Before a specimen is radiographed, it is usually fluoroscoped to obtain a general idea as to its density.

Flint proved to be more radio-translucent than at first thought and requires a rather soft ray: i.e., one of low penetration. We have been using double screens, 39 inches distance, 60 kilovolts, 20 milliamperes, and 3 seconds exposure time for a piece about one-half inch thick. For thicker specimens, we increase the kilovolts, and when necessary, the time. For thinner specimens, the kilovolts are decreased, or the no-screen technique given under "Pottery" is used.

The pipes have given the most difficulty because of the great variation in the densities of the materials used in their manufacture and because of the difference in thickness of the various parts of the specimen. We use double screens, 39 inches distance, 60-70 kilovolts, 20-30 milliamperes, and 3-6 seconds exposure time, the higher settings for the more dense and thicker pieces. For a sandstone effigy frog pipe, three and one-fourth inches thick, it was necessary to use 80 kilovolts, 20 milliamperes, and 10 seconds exposure time with double screens at a 39-inch distance.

A very soft ray is required in the examination of pottery. Two techniques have been used: one with double screens and the other without screens. The latter, we think, is the better because of a somewhat clearer negative with more contrast.

Double-screen Technique: 50 KV., 40 Ma., and 39 in. distance are constant factors.

Sherd 1 16 inch-1 8 inch thick, 3-4 second exposure time.

Sherd 3 16 inch thick, 1 second exposure time.

Sherd 1 4 inch thick, 1 1/4-1 1/2 second exposure time.

For thicker sherds, it is necessary to increase the kilovolts and usually the time. A shell-tempered sherd, three-fourths of an inch thick, from a Jefferson county, Missouri, salt pan, required 60 KV. and 3 seconds exposure time, the other factors remaining constant.

No-screen Technique: 50 KV., 10 Ma., and 66 in. distance are the constant factors.

Sherd 1 16-1 8 inch thick, 12-15 seconds exposure time.

Sherd 3 16 inch thick, 15-18 seconds exposure time.

Sherd 1 4 inch thick, 25-30 seconds exposure time.

In the thicker sherds, we have obtained as good results with the double screens, and it takes less exposure time, which is a saving of the x-ray tube.

In the examination of an unbroken piece of pottery, the ray is directed down through the opening in the top and a segment of the bottom of the

specimen is demonstrated without any overlying structures. The size of the segment demonstrated depends upon the size of the opening. In specimens in which there is no opening in the top, it is necessary to make the exposure through overlying structures. By doubling the exposure time and keeping the other factors constant, these structures can usually be sufficiently diffused to bring out the desired area quite clearly. The double screen technique is used.

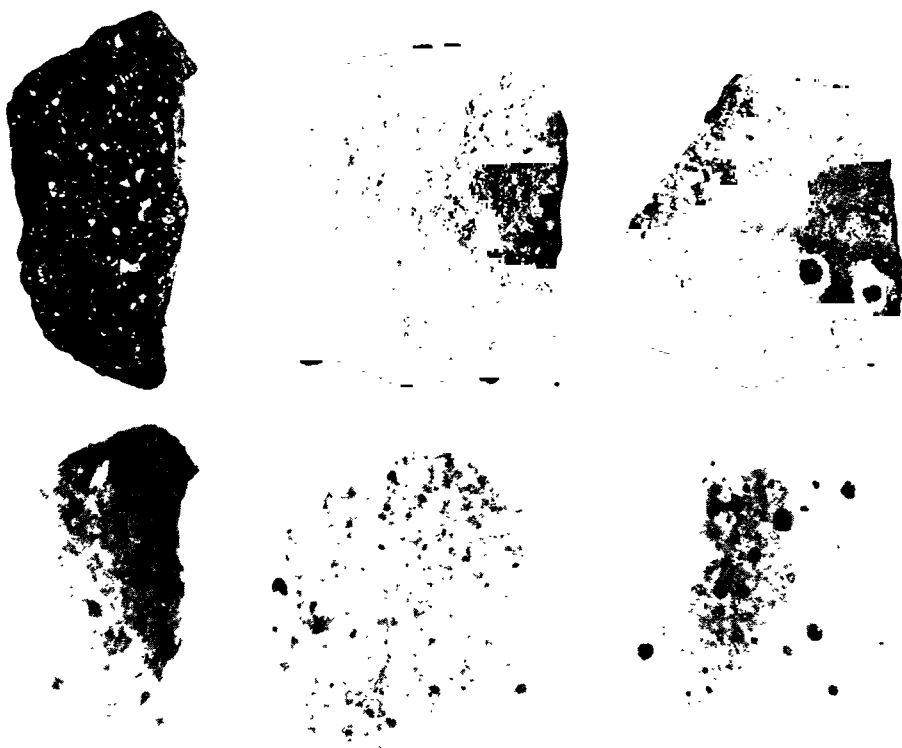
In this type of work, there are a few points that should be kept in mind. All techniques have been worked out on a five-minute developing, sixty-five degree temperature basis. A badly disintegrated sherd of a given thickness will be less dense than a sherd of equal thickness showing only a small amount of, or no disintegration. X-rays are always studied in the negative on account of the loss of finer detail in a transfer to the positive; some of this loss can be avoided by making a reduction. A seven-inch Kelly-Koett machine has been used in this work; but these techniques, with some changes, can be adapted to other machines. The tube used is of German manufacture, 6 KW, Muller, fine focus, radiator type.

The ideas introduced in this report may need revision in whole or in part, but possibly enough contrasts may have been demonstrated to stimulate the development of techniques and interpretations to such a point that the x-ray will have as a definite a place in the archaeological laboratory as it already has in some of the other laboratories.

My appreciation and thanks are expressed to Messrs. McKern, Dickson, Nesbit, Cole, Deuel, Kelly, Blom, and Messrs. Pete Stewart and K. K. Baker for the advice and counsel they have given and for the supplying of sherds that have made these experiments possible.

At the present time, through the co-operation of Drs. Guthe, McKern, and Cole and the Missouri Historical Society of St. Louis, a comparative study of sherds of the Hopewell culture and some of its variants is being attempted.

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ST. LOUIS, MISSOURI



The sherd on the left is from the Dickson Mound. It is shell tempered and shows very little, if any, disintegration. Note the flaky appearance, the lighter areas being the small particles of shell. The central sherd is from southeast Missouri. It is hole-tempered and badly disintegrated. The dark, mottled areas are due to the holes, and the white spots are due to a small amount of sand. The sherd on the right is from southeast Missouri and is a disintegrating shell tempering—note upper left edge in upper photograph. The x-ray shows none of the shell, but does show some coarse sand and several of the BB shot effect.

ANTHROPOLOGICAL ACTIVITIES IN SOVIET RUSSIA

By EUGENE GOLOMSHTOK

INTRODUCTION

BECAUSE of the double barrier of language and political isolation the progress of scientific investigation in Russia has remained virtually undisclosed to European and American specialists since the end of the war. Even previously, our information about Russian archaeological and anthropological activities was very uneven. As a rule, whatever was available came to hand through the specific interests of some Western scientist, who, for particular reasons, gathered facts about some phase of Russian investigations as a part of the general problem that happened to interest him.

The major publications in European languages in these fields of research can be easily counted on the fingers of both hands. Thus, in ethnography we have the splendid monographs of Bogoras, Jochelson, Laufer, and Shirokogorov; older works, such as Schrenck, Castren, and Mikhailovsky, the two books by Czaplicka, half a dozen shorter studies, and various reviews that from time to time have appeared in German and French periodicals.

In archaeology the situation has been almost as unsatisfactory: southern Russia has received no little attention, so that the investigations of Tolstoy, Kondakov and Reinach are available, plus the classical work of Minns and the later studies of Rostovzev, Ebert, and Borovka. Tallgren has contributed perhaps more than any one other person to our knowledge of Finno-Ugric and Permian antiquities both in Finnish periodicals and in *Eurasia Septentrionalis Antiqua* (under his editorship) which alone has published original contributions by present Russian students of these subjects. Tallgren's studies have been confined to the above fields, and we have further the works of Arne and Aspelin, and later of Gero von Merhardt, that contributed useful material on the Yenisei region. We have also important information only recently published, though obtained long ago by Jochelson on Kamchatka and the Aleutian islands. These works constitute practically all that students in Europe and America can find on Siberia.

Certain sites, such as Olbia and Khersones, have been described in occasional reports in German and French periodicals, mostly in the form of short articles by Farmakovsky, Volkov, DeBay, and Ebert supplied some information on the Neolithic (Tripolie). As far as can be ascertained, however, no effort was made to summarize all available material or to present any great part of it in finished form. Unfortunately, Russian scientists have rarely summarized their work in European languages. This omission still continues, and such summaries as are given leave much to be desired. Fur-

ther, libraries, especially in this country, often receive incomplete sets of publications and experience difficulty in effecting continuous exchanges. Consequently even the student who knows Russian is hampered by the lack of available information.

It is hardly necessary, however, to emphasize the importance of this information to scientists of Europe and America. Since Russia comprises about one-sixth of the dry surface of the earth, gives habitation to numerous primitive groups, and covers a wealth of archaeological remains, this area cannot wisely be overlooked, nor its scientific problems counted out of the general picture.

Leaders of research in anthropology consider Siberia one of the most important fields extant, particularly for Americanists, inasmuch as eventually all of our American problems must be tied to Asia, the ultimate solution of many of our local problems lying in Siberia. Similar opinions are expressed by French, German, and English archaeologists, such as Burkitt, Boule, Breuil, and Obermaier, who hold that the solutions of many general problems wait further information from the proverbial "terra incognita," Russia.

Since the writer's undergraduate days under Drs. Kroeber and Lowie in California, he had cherished the idea to go to Russia in order to collect scientific data known to exist there and to make them available to the outside world. Owing to his anthropological training, problems essentially archaeological had not originally entered into this plan, the main objective being to supply the necessary data on Siberian ethnology.

Association with the University Museum fortunately presented an opportunity for initiating at least a part of this plan. A combination of circumstances plus the necessary funds, provided by a number of associated institutions, made possible a trip to Soviet Russia in the fall of 1931.

The University Museum, realizing that undoubtedly much had been accomplished in anthropology since the war and that much was now in progress about which no information was available, launched this project. Having obtained welcome cooperation from the Peabody Museum and the Fogg Museum of Harvard and assistance from the American School of Prehistoric Research, I was able to go to Leningrad as a representative of these institutions. My particular aim was to gather as much information as possible on the present state of research, to establish contacts for the exchange of information, publications, and notes; and to effect cooperative measures that would insure for the future ready dissemination among scientific bodies in Europe and America of this knowledge of the outstanding developments in Russia.

The original plans for this project included visits to almost all the im-

portant museums in Russia, in order to obtain as broad a view of the situation as possible. Upon arrival in Leningrad, such a course was found to be, at least for the moment, unnecessary, since a mass of entirely new material could be obtained in Leningrad alone, a concentration center of scientific work in the Union. Not only was it, therefore, more practicable to remain in Leningrad, but it was felt that more information could be gathered there in the relatively short time available, than by a diffusion of effort over a number of other areas. Though this probably gives a certain onesidedness to the information here presented, there will result a more complete picture than if four or five more specialized centers had been visited.

In the limited time available it was not easy to make the essential personal contacts with the various scientists and organizations. This, coupled with the diversity of the fields of interest and a lack on the writer's part of specific knowledge, resulted perhaps in a restricted picture of activities. Important achievements may have completely escaped attention and others unduly stressed or underestimated.

One of the plans was to get the necessary information for an outline of the Palaeolithic in Russia. This task was simplified because in 1931 the plans for organizing a Congress of the Students of the Quaternary in Leningrad led to the collection and preparation of the bulk of the available materials from all over Russia for the exhibition. Though the Congress was postponed until 1932, so that the exhibition was not finished, the material available in the Museum of Anthropology and Ethnography of the Academy of Sciences and the presence of the best authorities—P. P. Ephimenko, G. A. Bunch-Osmolovsky and S. N. Zamiatnin—in Leningrad made it possible to obtain considerable data.

After studying the collections in museums, consulting the available literature, and discussing specific problems with the specialists, the writer has material for a preliminary survey, accompanied by photographs of the most important finds, charts, maps and the opinions of leading investigators.

Some time was spent in the Russian Museum with Professor Teplouhov, studying and photographing the collections illustrating the succession of cultures in the Minusinsk region. S. A. Teplouhov, after some ten years of research in this field, had arranged a tentative series, which will be of immense value to the future student. A preliminary plan for a joint expedition in the region of Minusinsk was drawn up on advice of Professor Teplouhov and his assistants who, it is hoped, will be able to participate personally should such an undertaking come to pass.

Some efforts were made to collect at least part of the most important literature pertaining to some of the subjects mentioned.

The following report, therefore, is based partly on literary sources, partly on interviews with specialists, and on studies in scientific institutions.

PROGRESS IN ARCHAEOLOGY AND ANTHROPOLOGY

Scientific Institutions

Following the revolution, a great number of new organizations came into being both in the large cities and the smaller towns. Numerous private collections became the foundations of newly-born local museums, which were rapidly enriched through the feverish activities of innumerable provincial organizations.

The tendency to bring modern civilization to the peripheral region brought the museum worker there, who immediately organized a Society for the Krayevedenie, a local academy for regional study. A list of such societies published in 1925 and already very much out of date gives some seventeen hundred such organizations. In their program botany and zoology were combined with anthropology, numismatics with folklore, archaeology with geology, and so forth. These efforts increased the collections and brought together not a little data on the history and natural conditions of the region and its inhabitants. The results of their work were published in memoirs, proceedings, reports, bulletins, varying in size and importance. The large number of these publications, as well as the fact that they often undergo changes of name, scope, form and purpose, make it difficult even for the Russian specialist to assemble all the data bearing on his particular field.

Several measures are, however, being introduced for facilitating the use of this mass of information. Nor is this activity limited to the provinces, for in the centers, especially in Leningrad, scientific investigation and the codification of results have been embarked upon.

The largest museum in Leningrad, the State Hermitage, has become increasingly scientific under the new régime. Organized by Peter the Great as the Kunstkamera, the Hermitage until lately was essentially an art museum, its important archaeological collections being far from scientifically arranged. During the last few years, however, there is a growing tendency to exhibit the archaeological finds systematically according to the cultures rather than as unrelated curiosities. The Hermitage has been enriched by numerous private collections that became State property, has expanded its activities, and has been given more space. The former Winter Palace is now part of it and, following a policy of concentration, is to be used for housing the major part of all the Russian archaeological collections in Leningrad.

Again we find major changes in activity and scope in the Museum of Ethnography and Anthropology of the Academy of Sciences, which was established before the revolution to embrace general ethnography and has representative collections from all over the world. Of particular interest to Americanists are the splendid Siberian collection and the small but choice collection from North America, particularly that of the Tlingit, objects that date back to the Russian occupation of Alaska.¹ Besides these collections, fully three-quarters of the most important material illustrating the palaeolithic of Russia and Siberia was concentrated here for a special exposition, in October, 1931. The Museum also has considerable skeletal material from many regions of Russia and Siberia. It published periodically *Sbornik* (Memoirs), several volumes of which have appeared to date.

1923 marked the official opening of the Ethnographical Division of the State Russian Museum, the main depository of representative collections from the peoples of the U.S.S.R., and housing some 200,000 objects. In addition to the very large collection representing virtually every tribe in Siberia and in Russia, the Museum recently opened the exhibition of the material culture of the population of the Ukraine, and in a few months the Sayano-Altai Section will be completed. The latter, mostly through the efforts of S. N. Teplov and his assistants, comprises ethnographic and archaeological collections, with splendid series illustrating the culture sequence around Minusinsk, the Pasirik and the Kudhirge burials of the Altai, and the major part of the Khara-Khoto material collected by Kozlov. This is supplemented by the most representative material from the Sayano-Altai tribes.

In certain fields have been founded entirely new societies which are already accomplishing much that is significant, such as the Society for the Study of Ukrainian History, Literature and Language established in 1924, the Leningrad Society for the Study of the Culture of Finno-Ugric Tribes, 1925, The Leningrad Society of Krayevedenie with sections for culture-history, anthropology, and ethnography, 1925.

In 1917 the Academy of Sciences organized a Committee for the study of the ethnic groups of U.S.S.R. and neighboring countries, afterwards abbreviated as I.P.I.N. Its first objective was the compilation of an ethnographical map of U.S.S.R. Since then the activities of I.P.I.N. have been extended and classified as follows:

1. Ethnological study of the population of U.S.S.R.

¹ Sternberg-Ratner, The Tlingit collection of the Museum of Anthropology and Ethnography, *Sbornik M.A.E.* VIII, IX.

2. Compilation of ethnographic maps with explanatory texts.
3. Study of the physical types of the population of U.S.S.R. to determine their genetic relations with food, surroundings, and so forth.
4. Determination of the degree of readiness of groups to participate in the general life of the state and the development of the natural resources.
5. Linguistic studies.

During the decade of its activity the Commission issued the following:

13 numbers of "Trudi" (Transactions)

2 numbers of "Izvestia" (Bulletins)

The Ethnographical Map of Siberia in six sheets, scale 1-100 verst, maps of Bessaravia, Bielorussia, the Samarkand region, the Ural region, the Volga region, the Murmansk region, Karelia, Leningrad, Pskov, Chrepovetz and Novgorod gvts.

It publishes, besides, the periodical "Tchelovek" (Man), of which several volumes have appeared.

The extensive ethnographical map of Siberia (1927) is in colors and represents the 191 ethnic groups in the region. Though the legends are in Russian, the French key to the color chart and the individual numbers for each group facilitate its use by students not knowing Russian. Since the map is neither up-to-date nor wholly accurate, a revised edition is now in press. Long lists of regional maps in preparation or already issued, and articles on the distribution of different ethnic groups, testify to the great activity of this organization.

In 1926 the Commission for the Study of the Quaternary Period was organized with plans including not only the study of the quaternary deposits, but also the whole quaternary complex with fauna, flora and physico-geographical conditions, and the cultural development of Quaternary man in his natural surroundings.

One of the most active champions of this method of study and museum exposition is G. A. Bunch-Osmolovsky, well known for his work in the Crimea and for his critical articles on this and allied subjects.

In 1919 the Geographical Department of Leningrad University added an Ethnographical Section. In 1925 this was divided into two divisions, one Anthropologico-Ethnographical, and the other devoted to Languages and Material Culture. Further, in 1920, the Institute of Modern Oriental Languages was organized and its scope for the study of the History of Art was extended to include native arts and crafts.

In 1919, again, a new organization was formed to take over the work of the former Archaeological Commission and Archaeological Society. This was the Russian (State) Academy of the History of Material Culture, with

subdivisions for Archaeology, for the History of Art, and for Ethnology. The last in turn has departments of Palaeoethnology, Ethnography, and Ethnic Anthropology. An Institute of Archaeological Technology was added as a separate branch. Four volumes of reports and eleven of memoirs have been published by this organization to date.

The Central Geographical Museum established in 1919 endeavors to study man's relation to geographical conditions. Finally, the Central Bureau of Krayevedenie serves as the clearing-house for the numerous local organizations described above.

During the first years of the revolution the learned societies were obliged severely to curtail activity, but in the last decade they have resumed work to a considerable extent. Thus the Ethnographical department of the Russian Geographical Society reopened the section of Music and Folklore, and has added the Karelo-Murmansk Commission and a new Committee for the study of the habits and folklore of children. The former Anthropological Society of Leningrad University and a Society of the Military Medical Academy were merged, thus combining the anthropologists and students of medicine.

The Asiatic Museum of the State Academy of Sciences established in 1818 is in the main a library with one of the most complete collections of books and manuscripts in oriental languages. It has three divisions: 1) books and periodicals in European languages, 2) Asiatic archives comprising documents, letters, and unpublished material pertaining to the long line of Russian orientalists, and 3) the department of oriental manuscripts and books, with six subdivisions, viz: the Moslem world, the Far East, Middle Asia, the Semites, the Caucasus and the Christian Orient, and the Iranian-Islamic group.

The Japhetic Institute, organized in 1921, aims to study the Japhetic languages of the aboriginal population of Europe, both the pure relict forms and the newer hybrid formations found. Hence there are under consideration Caucasian and non-Caucasian speech, Pamirian, Mesopotamian, the language of Asia Minor, Basque, Etruscan and the "relicts" found in such languages as Semito-Hamitic, Indo-European, Finno-Ugric, and Mongolo-Turki. There has also been initiated the "Japhetic approach" to the study of myths and literary motives. Altogether there is an effort to establish closer connections and cooperation between linguistics and the history of material cultures. The Japhetic Division of the Academy has published regular annual reports since 1922, besides numerous articles in various journals.

Field Work in Anthropology

Field work, formal expeditions or informal, was so extensive during the period immediately following the revolution, that an approximately complete list would be impossible without a special survey. The information that follows is merely designed to afford some idea of the scope of the field activities.

The majority of these were naturally connected in some form with the State Academy of Sciences. Of its expeditions, one may distinguish two main kinds—one type having purely scientific aims, the other combining practical objectives such as the betterment of local living conditions with theoretical research.

Brief mention of some of the more important of these undertakings must here suffice:

The Bashkir Region Expedition planned for five years, included an Anthropological Section under Rudenko, with four subsections employing seventeen specialists from Leningrad and six local investigators.

The subsection devoted to Physical Anthropology, in charge of S. F. Baronov, measured and questioned 1,511 persons, took 3,899 samples of blood, questioned 699 women on physiological processes, and photographed 700 individuals, besides making several dozen plaster casts.

In Brisk canton the Ethnological subsection studied Mari and Votiaks.

N. K. Dmitriev and five assistants collected material on phraseology and vocabulary, in dialectical centres. Important material on folklore, together with phonographic records of some 800 tales and songs, were obtained, representing the first systematic attempt to study the Bashkirian dialects.

The Palaeoanthropological Section under A. V. Schmidt and five assistants excavated in the canton of Ufa, discovering the "palaeometallic culture" in the Upper Chadar, the remains of a transitional culture from the Bronze to the Iron Age in the valley of the Bielaya river, and the ancient fortified settlement in Ufa canton dating back to the first millennium B.C. Several burial fields dating from the fourth to the seventh century A.D. were uncovered, and a group of Kurgans with typical ceramics of the Andronov culture in Argayash canton, near the village of Nurbakova.

The Yakutsk Expedition, also with a five year plan, was organized in 1925, with the following divisions: Ethnographical, Medical, Sanitary, Statistical, Economic, Forestry, Hunting and Fishing, Agricultural, Geomorphological and the like, Hydrological, and Aero-meteorological. These were subdivided into twenty-four branches, each covering, according to its scope, the whole southern part of the Yakutsk region. The Ethnographical

division under I. P. Soilonnen's leadership studied the Yakuts, while the Tungus were investigated with V. N. Vasiliev as director. The material assembled is being studied in the Museum of Anthropology and Ethnography in Leningrad. Reports are periodically published in the special series called "Trudi" (Transactions) and in Reports of the Yakutsk Committee of the Academy of Sciences of U.S.S.R.

The Northwestern Ethnological Expedition has since 1926 worked in two large sections,—Leningrad and Karelia. The Leningrad section studied the Finnish tribes, the Vesps, the Izhorz, and some purely Russian peoples. The Chuhardsk Subdivision under Z. P. Malinovskaya collected data on the material culture of the Vesps. N. S. Rosov, in charge of Physical Anthropology, gathered 197 reactions on the agglutination of blood and measured 145 Vesps and 200 Russians, while similar work was carried on among the Izhors, ethnographical collections being secured. All the material and data obtained is now in the Russian Museum. V. A. Ravdonikas of the Museum of Ethnology and Anthropology with a Swedish scientist, T. J. Arne, excavated kurgans in the region of the Soj river. Forty-five kurgans were opened, the majority being cremation burials with numerous objects of Nordic type belonging to the Viking epoch, and the rest clearly pertaining to the East-Finnish Culture.

The Karelian section under D. A. Zilotarev studied reindeer breeding among the Karels, their lumber industry (with motion pictures), and house construction. About fifteen hundred metres of film were taken to illustrate the life of the Karels. Some 800 individuals were measured and samples of blood taken. Material on the inheritance of certain anthropological characteristics were obtained by detailed investigations among 45 families comprising about 200 individuals.

Buriato-Mongol Expedition. The Anthropological Division took part in the joint Soviet-German Buriato-Mongol expedition to study under the direction of Mme. A. P. Stavitskaya the distribution of syphilis. In addition 683 anthropological measurements were made, also plaster masks and photographs, and considerable data were assembled relative to the female population.

The Archaeological Division, organized by the Mongol committee, under G. P. Sosnovsky, made a survey of the territory of the Selenga river, excavating 52 burials and one fortified settlement, and collected material from 15 dune stations. Of special interest were the discovery of a Palaeolithic industry associated with shells of ostrich eggs, a burial group of the Egypalaeolithic period, burials of the Bronze Age, and burials of the Iron Age in pine coffins, with skeletons associated with birchbark, quivers deco-

rated with silver plaques, bits of silk textiles, and iron weapons. In the Troitzkosavsk region were excavated one large and four small graves of Scythian-Siberian type.

The Ethno-linguistic Division, under N. N. Poppe and G. D. Sanzhev, studied the Alarsk and Unginsk dialects of the Nijmeudinsk Buriats.

Further Expeditions. Under S. E. Bubrich the Mordva Linguistic Expedition worked during 1927 and 1928 in the Nijniinovgorod-Penza-Saratov areas. The Linguistic study in the Nijniinovgorod region by R. I. Avanesov and V. N. Sidorov determined three main dialects and certain important and interesting variations of the local argot. Mme. N. Q. Martinova collected material on linguistics and folklore in the Riazan region, and P. S. Kuznetsov studied the dialects of the Upper Tomsk and north of Oviná.

The Ethnographical Division of the Complex Kolsky Peninsular Expedition studied the Lopars. The Palaeontological Division initiated the first excavations in the Kolsky peninsula, discovering burials of the Bronze Age dating back to the first millennium B.C. In southern Lapland, also, a station of the Arctic Neolithic was discovered, and, in the region of Iskangi, the stone culture of the ancient inhabitants.

In addition 553 individuals of the Great Russian population of the Tersk shore were measured, and 800 blood samples and some 200 photographs of types taken. Similar work was done among the Lopar population of the region.

P. L. Mashtakov worked on the Misharsk dialect of the Tartars and on the ethnography of the Volga and Sura river regions. A. N. Gvozdev studied in the Penza region the dialectical peculiarities in a group of villages.

D. P. Cordev investigated the mediaeval Christian antiquities in Karachai in order to determine possible influences between this area and the cultural centers of the Southern Caucasus, Abhasia, Kartlia, and Kahia.

G. F. Chursin was sent by the Dagestan Museum to do ethnological work among Ando-Dodoisk tribes. Data on material culture, social organization, birth, marriage, burial, magic, and religion were obtained from among Avars, Ahvaks, Karatins, Bagulals, Tindeys, Hwarsha, and Didoys. Mme. N. V. Terebinskaya-Shenger made anthropological studies of Karanogays.

An anthropological expedition, with two subdivisions, under the direction of Rudenko, carried on research among the Kirghiz of the Sayak and Solto clans, measuring 800 adults and 300 children, and investigating domestication of animals, the milk industry, care of animals, folk veterinary practices, and weaving. Methods of agriculture were studied and sacrificial chants recorded.

N. Y. Zolotov studied the Chuvash dialects of the Spask and Chistopol cantons of the Tartar republic, obtaining also data on religion and folklore.

A paleo-ethnological expedition under G. A. Bunch-Osmolovsky excavated the Suren rock shelter in Crimea and discovered cultural remains of the Aurignacian type.

N. I. Pepnikov excavated the antiquities of the Middle Ages. Some 200 skulls and long bones were obtained. T. F. Gellah made preliminary investigations of the Ai Petry region, where a station of the flint industry was discovered and some pebbles with engraved decoration.

G. P. Sosnovsky excavated the Bronze Age burials at Novoselovo on the Yenisei and near "ulus" Orak, revealing examples of the "Andronov" and the "Karasuk" cultures, as well as the transition period between these and the "Minusinsk Kurgan" culture.

Mme. L. E. Karunovskaya collected data among the Teleuts and the Altayans in the Shebalinsk "aimak" for the Museum of Ethnology and Anthropology. In the Biisk region A. I. Novikov worked among the Kuman-dins, taking a census and assembling material on the terms of relationship, folklore, mythology, and the erotic elements in shamanism and bear ceremonialism.

A. G. Danilin worked among the Teleuts and the Altaians, photographing ceremonies, and obtaining phonographic records of incantations, as well as cult objects and examples of the material culture.

The Ural Archaeological expedition carried on excavations in the region of the Ufa Canton of the Bashkir republic under A. V. Schmidt, and in the Kurgan² region under N. N. Bortvin, investigating kurgans of Scythian-Sarmatian types.

In the basin of the Konda river Mme. A. G. Dorskach took measurements among the Voguls, the Ostiaks, and the Buchars, thus revealing admixture of the Turki elements among the southwestern Ostiaks.

A. S. Sidorov made ethnological and archaeological investigations in the basin of the rivers Vim and Pechora, obtaining material on the ancient headdresses of the so-called "tamgi" (ownership symbols). Preliminary soundings resulted in the discovery of two fortified settlements and several burial fields of the eleventh and twelfth centuries, some yielding examples of the Permian "animal style" associated with a specific type of pottery.

V. I. Latikin has conducted studies in the folklore and language of the Zhirians of the region of the Sisol river, obtaining a vocabulary of some 8,000 words.

² Kurgan is a town on the Trans-Siberian Railway between Cheliabinsk and Omsk.

The Middle Asiatic Ethnological Expedition under Barthold studied the nomadic and semi-nomadic populations of Turkomanistan (Djemshids, Khazars, and Brudjs). Some 500 objects of material culture, 300 photographs, and 50 drawings were obtained, as well as data on house construction, dress, industries, marriage, birth, language, and folklore. G. K. Schultz collected 115 specimen objects and 399 photographs of Khiva Karakalpaks.

Numerous other expeditions were organized and dispatched by the Russian State Museum, by the State Academy of the History of Material Culture, and by other scientific institutions of Moscow and the provinces. The foregoing statement may suffice to indicate the character and scope of anthropological work in U.S.S.R.

THE MOST IMPORTANT SCIENTIFIC RESULTS

Fossil remains

In the fall of 1918 while working on Basarnaya square of Piatigorsk (Caucasus) at a depth of 2-3 sajen (14-21 ft.), the workmen came across a pottery vessel and a stone implement. Still deeper were found human bones in a very bad state of preservation, which were picked up by the janitor of the local university. Mr. M. A. Gremiatsky (now lecturer of the Moscow University) studied the remains and published the results in 1922-25. Another search, however, failed to produce any further remains. At that time, civil war made it impossible to continue the investigations. Consequently, for the exact circumstances of the deposition, we have to rely on the reports of workmen. These remains were dated from the age of the valley of the Podkumok river, where the find was made, i.e., as belonging to the last glacial period (Wurm) of the Northern Caucasus. Characteristic animal remains were completely absent.

The bones are those of a female 55-65 years old and include the vault with the well-preserved bones of the forehead and parts of the temporal and nasal bones, separate parts of the right side of the lower jaw with five teeth, parts of the temporal bones, parts of the left clavicle, and small remains of other bones. They represent the easternmost find of Neanderthaloid type on the basis of the following: (a) presence of the torus supra-orbitalis similar to that of Spy II and Krapina; (b) character of the profile line when drawn through the middle part of the upper edge of the eye socket; (c) large distance between eyes; (d) high interorbital index; (e) very slight development of the tubera frontalis. From certain indications the author of the description considers Podkumok man intermediate between Neanderthal man and *Homo sapiens*.

In 1924 G. A. Bunch-Osmolovsky found palaeolithic remains in the grotto Kiik-Koba near the village of Kipchak, 25 kilometers from Siemphropol. The fourth and sixth layers of the finds yielded rich palaeontological material important for dating. The mineralized bones of the animals, found mostly broken, were examined by the famous specialist Professor A. A. Bialinitsky-Birula, who has established the presence of the mammoth, rhinoceros, giant elk, antelope saiga, bison, wild horse, and other extinct animals. In the sixth layer, less rich in animal remains, were found bones of giant elk and antelope saiga. It contained hearths and the burial of an adult in a grave specially dug out in the rock bottom of the cave. The skeleton was oriented east-west, with slightly contracted legs. Unfortunately, the bones were very badly preserved and only part of the skeleton was in situ, the major part having been disturbed by the inhabitant of the fourth layer, who dug out a grave for a second burial of a child. Consequently only the following bones are saved:

1. One front tooth, with very much worn crown and one root. The enamel was left for the distance of 1 mm. This tooth, according to the discoverer, is very similar to the 2nd incisor of *La Quina*, but more massive.
2. Two bones of the metacarpus.
3. Twelve phalanges of the right hand, 3 of them bearing nails and at least 1 unusually large.
4. Well-preserved right kneecap.
5. The leg bones (tibia and fibula), both damaged and partly reconstructed, allowing measurement of the lengths and the degree of retroversion.
6. All bones of both feet with the exception of the second phalange of the 5th toe of the right foot. Nine of them are partially damaged, the rest well preserved. (See pl XXIIa.)

There were found altogether 77 adult bones—all massive and rough. They and the associated Mousterian-like industry suggest that the Kiik-Koba man was very near to the Neanderthal man of Western Europe, the measurements even indicating its more primitive character.

Human remains contemporary with the mammoth were found also near Ulianovsk (former Simbirsk) in the village of Undora and described by Academician A. P. Pavlov. The finds called "Undora I"—represented by a large fragment of the frontal and right temporal bones, belonging evidently to a woman—and "Undora II"—part of the left frontal bone and both temporal, perhaps of a male—are regarded by A. P. Pavlov as of the same type as Galley Hill Man.

Finds of Palaeolithic Statuettes

Palaeolithic remains were discovered in 1927 by S. N. Zamiatnin in the village of Gagarino (formerly Lipetsk county, Tambov, Govt.) on the upper Don. There, together with a considerable number of bones, tools, needles, awls, perforators, necklace of fox teeth, a number of flint artifacts—such as high scrapers (*grattoir carné* and *angle*), crooked cutters (*burin busqué*)—were found sculptured representations of women, carved out of mammoth tusks. Seven small statuettes were found in all—two of them intact; the third well preserved but without legs; three others only in part; and the seventh in unfinished form (pl. XXIIb).

The station Malta was discovered in 1918 by M. M. Gerasimov in the village of Malta, near Irkutsk, on the left bank of the Bielaya river. The investigations were carried on in 1929 and 1930. Besides such fauna as the mammoth, rhinoceros, Arctic fox, and reindeer, were found many flint implements of different types and well-developed bone implements, such as needles, drills, knives, dart points, etc. Many objects of personal adornment were found made of stone and bone, such as beads and pendants sometimes covered with ornamentation. Especially interesting are the large pendulums in the shape of birds, and one like a fish. One large plaque of mammoth tusk was engraved with the image of a mammoth.

Of special interest are nineteen statuettes of women carved out of bone. Judging by the better preserved ones, they resemble considerably the European and Gagarino type. Many have well pronounced *steatopygy*, pendant breasts, thin and weakly expressed arms, schematically traced facial features, and quite realistically depicted hair, either braided or loose.

During the summer of 1931, P. P. Ephimenko, adding to two earlier finds at Kostenki, there discovered the record number of Upper Palaeolithic sculptures, the total being 42. Since they were in the process of the preliminary cleaning in the laboratories, only a few of the statuettes could be seen. One is carved out of stone, some 15 cm. in height, and represents a very primitive-looking creature. In profile, the thick neck and protruding supraorbital ridges suggest Neanderthal man. Some of the statuettes represent males, which is quite unusual. There is also the first “*baton de commandement*” among the bone implements discovered in Kostenki. The full report will be published by the State Academy for the History of Material Culture in Leningrad.

House Pits of the Aurignacian

Other important finds are the “house pits” in Gagarino, Kostenki, and Timonovka. P. P. Ephimenko and V. A. Gorodkov of Moscow (the dis-



a, The bones of Neanderthal man of Kiik-Koba, Crimea; *b*, Palaeolithic statuettes found in Gagarino, Upper Don, Russia; *c*, tip of the mammoth trunk discovered in Siberia.



Pazirik Burial, Altai *a*, one of the 10 mummified horses,
b, wooden pendants on saddle trappings.

coverer and excavator of Timonovka) both report definite traces of house construction from the above sites, which culturally correspond to the Aurignacian. P. P. Ephimenko even asserts that French and German archaeologists have charted such house pits on their detailed maps of excavation, but failed to recognize their "hearths" as houses.

Kolyma Mammoth Trunk

In 1924 a well-preserved mammoth trunk was found by an unknown Tungus hunter in the ever-frozen soil of the Kolyma district. Passing through many hands it lost a great part of its size, and only a tip found its way as a table decoration to the house of one of the residents of Sredne-Kolymsk. In 1929 a member of the Yakutsk Expedition brought this valuable specimen to the attention of the scientists in the Zoological Museum in Leningrad, where it is now preserved. It has a total length of 28 cm. and is completely dried up. It is dark brown, the inner side being darker than the outer. The microscopic examination shows that it was covered by thin under fur, and more sparsely by longer and coarser bristles. In cross-section the trunk resembles that of an Indian elephant, but the lip tapers gradually into a finger-like appendix without any abrupt contraction.

The shape of the trunk admirably confirms the accuracy of Palaeolithic man's observation as shown in cave engravings of mammoth (Combarelles and others). (See pl. XXIIc)

The Palaeolithic Period in U.S.S.R.

The following is a list of stations, arranged very provisionally with the European subdivisions indicating cultural type rather than chronology:

Acheulean:

1. Volga (Coup de Poing of Gorodkov?).
2. Kiik-Koba, lower horizon. Crimea.

Mousterian:

- | | |
|--------------------------------------|----------------------------|
| 1. Wolf cave, Crimea. | 5. Podkumok, Caucasus. |
| 2. Kiik-Koba, upper horizon. Crimea. | 6. Ilskaya, Caucasus. |
| 3. Shaitan-Koba, Crimea. | 7. Derkula, Donetz region. |
| 4. Chokurchi, Simpheropol. | 8. Badrak cave, Crimea. |

Aurignacian:

- | | |
|--------------------------|--------------------------|
| 1. Suren I, Crimea. | 4. Berdizh, Beilorussia. |
| 2. Borshevo I, Voronezh. | 5. Gagarino, C. Russia. |
| 3. Zhuravka, Ukraine. | 6. Malta, Siberia. |

Solutrean:

- | | |
|---------------------------|-----------------------|
| 1. Kostenki I, C. Russia. | 2. Mezine, C. Russia. |
|---------------------------|-----------------------|

Magdalenian:

- | | |
|-----------------------------------|---|
| 1. Kostenki II, C. Russia. | 15. Yurovitchi, Bielorussia. |
| 2. Kostenki III, C. Russia. | 16. Hotiansk, C. Russia. |
| 3. Karacharovo, Murom. | 17. Samara Voskresensky Spusk, Volga. |
| 4. Gontzi, Voronezh. | 18. Samara Postnikov Ovrage, Volga. |
| 5. Borshevo II, Voronezh. | 19. Undora, Volga. |
| 6. Suponev, Voronezh. | 20. Alexeevak, C. Russia. |
| 7. Timonovka, Voronezh. | 21. Afontova Gora and others near Krasnoyarsk. |
| 8. Suren II, Crimea | 22. Bateni, Lepeshkin, Buzunov, Potroshilov, Birus Cabe (Minusinsk region). |
| 9. Virchov cave, Caucasus. | 23. Irkutak, Baikal. |
| 10. Gvardjilas, Caucasus. | 24. Habarovak, Amoor. |
| 11. Karsnis-Hevi, Caucasus. | 25. Tomsk, C. Siberia. |
| 12. Devis-Hvreli, Caucasus. | |
| 13. Lugansk, Ukraine. | |
| 14. Novo-Bobovitchi, Bielorussia. | |

Neolithic and Subsequent Periods

No attempt has been made to organize the material of Neolithic and subsequent periods. Still it seems that there is an abundance of microlithic sites (6 in Crimea, 28 in Ukraine, 6 in Bielorussia and 3 in C. Russia). The macrolithic industry (Campignian) was found only at 4 sites in U.S.S.R. The full neolithic is badly studied, some fifteen sites through the country are recorded.

The later cultures have been studied more. According to V. A. Gorod-zov, they are represented by four stages with the following cultures:

- | | |
|---------------------------|-------------------------|
| 5,000-3,000 B.C. | 2,000-1,500 B.C. |
| A. 1. Anauksk Culture | C. 1. Haldsk Culture |
| 2. Tripolie Culture | 2. Koban Culture |
| 3. Donetzko-Yamsk Culture | 3. Scrubnaya Culture |
| 4. Oka Culture | 4. Abashevo Culture |
| | 5. Andronov Culture |
| 3,000-2,000 B.C. | 1,500-1,000 B.C. |
| B. 1. Maikop Culture | D. 1. Cimmerian Culture |
| 2. N. Caucasus Culture | 2. Khwalinsk Culture |
| 3. Catacombian Culture | 3. Seiminsko Culture |
| 4. Middle Dnieper Culture | 4. Karasu Culture |
| 5. Fatianovo Culture | 5. Glazkov Culture |
| 6. Pamphilof Culture | |
| 7. Fedorovsk Culture | |
| 8. Afanasiev Culture | |
| 9. Kitoysk Culture | |

No summary of the characterization of these cultures is available. The author, however, prevailed upon Professor Gorodzov to write an outline for a preliminary report to be published, if possible, in American periodicals.

Scythian Burials

Outstanding discoveries of the metal period are the "Scythian" burials in the Eastern Altai. One tomb was excavated in 1927 by M. P. Griaznov in Shiba, the valley of the Ursula river. The grave had a stone pile marking it on the surface and forming a kurgan 45 meters in diameter and 2 meters high. About the center of this stone hill was a large pit 7 meters deep and 35 square meters in area. The burial was made in two chambers with ceiling and floor of logs. The corpses were laid in the dugout "sarcophagus." Fourteen horses occupied the rest of the pit, the whole being covered with thick logs and branches. Though this tomb had been previously robbed of most of the material from the main chamber, the looters were evidently unable to penetrate to the horses, so the finds there make possible the reconstruction of the culture of this epoch.

There are many thin gold buttons, figures cut out of gold leaf sometimes colored with red and black paint, the remains of iron objects with gold incrustation, pieces of Chinese lacquer, a series of colored decorations on elk horn, various beads, etc. The most interesting objects were in the horses' tomb, to wit: the heads of wild cats carved out of wood and covered with gold-leaf, various pendulums, beads, snaps, buckles, all gold-covered; also various leather decorations with gold appliqué for the bridles. These usually perishable objects were well preserved because the grave was entirely frozen. Both burials of a man and a child were mummified by replacing the muscles and the entrails with some vegetable matter. The brains were extracted through a special cut in the skull. All cuts as well as the eyes were sewed with thin threads.

The decorated "animal motive" and the technique are of Siberian-Scythian type, but the Chinese lacquer and the leather decorated with the incrustated crosses similar to those on the mirrors of the Han period, links this culture with China. The style of the elk horn decoration, very like contemporary Turkish ornament and related to the leather work of the little known bronze period of Siberia, adds material for the study of the development of Turkish ornament.

From parallels with the Noin-Ula kurgans in Mongolia and the Altai kurgans excavated by the Altaian expedition of the State Russian Museum in 1925, the burial is dated about the beginning of our era.

A still more important and richer burial is that of Pazirik. The kurgan, one of the group of Ulagan in Pazirik, was discovered by the Altaian expedition of the State Russian Museum in 1924 but not excavated until

1929. It is an artificial hill of large stones, 2 meters high and some 50 meters in diameter. In the center under the stones was a pit 7.2 by 7.2 meters and 4 meters deep, which contained two burial chambers constructed of logs and thick boards. Outside of the chambers in the northern part of the pit was a place for horses. The whole structure was covered by several layers of logs (three hundred), and then by earth.

The usual frozen condition was present there as in the three other excavations of the kurgan of stone piles. The human burial had been looted, while the horses' burial was intact. A bronze celt with a broken handle bore witness to the unsuccessful attempt at robbery.

In the human burial chamber there remained. (1) a well-preserved sarcophagus decorated by figures of birds; (2) heads of rams cut out of leather and gilded; (3) remains of a felt carpet with design of lions' heads, used for the covering of the walls of the burial chamber; (4) sharpened sticks and broken spades used in digging, as well as many other wooden objects.

In the horses' burials were found remains of ten mummified horses—preserved by the frost (pl. XXIII*a*). They had been killed by the bronze "tcekar" (double axe) and thrown into the pit. Over them were thrown ten saddles, bridles, and saddle trappings. On the head of one of the horses was found a mask of a reindeer made of leather, felt, and fur, with the horns of natural size. On the neck was a "neckpiece" made of felt, leather, and horse hair. The other mask and "neckpiece" were together with the saddles, as well as stick-shields and fur-pouches for provisions.

All saddles and bridles are of one type, the latter decorated with numerous carved wooden pendants, covered by sheet-gold and silver (pl. XXIII*b*). The former consist of two soft pillows of finely carved leather and felt, stuffed with reindeer hair, and covered with a cloth of leather or felt.

Except for a comparatively small series using plant motives, the saddle decorations reproduce animals and scenes of animal life. They are very peculiar but well executed. Eagles, elk, reindeer, mountain-goats, bears, griffins, birds, and fish, as well as human faces are represented, with wood, leather, felt, fur, horse-hair, silver, and gold as the media, while red, blue, and yellow pigment are used to color the exceptional objects of art.

Not only the horses' harnesses but all objects found with them are covered with ornamentation. The saddle covers made of felt, leather, and dyed horse hair are decorated with birds; the tail-covers are also ornamented. The masks are especially intricate, being made of felt and leather and covered with sheet gold. On the front part of the mask is a figure of a bear cut out of fur. Another mask represents the struggle of the "Bears" and the griffin, the latter with large wings and sculptured head decorated with bison horns (fig. 1).

On the right side of the saddles on special strips of leather are attached the stick-shields. In spite of their small dimensions, they undoubtedly represented the armor. They are made of nicely polished wood interwoven with leather, and in them

we can recognize the shields known to us in the representations of the fighting Scythians on the gold comb of Greek workmanship from the kurgan Soloha.

One little sack is made out of the head of a lynx and has the corresponding form, the other is cylindrical with a round leather bottom. Both are sewed with colored pieces of leather and fur. They are (especially the latter) characteristic of contemporary Turkish-Mongolian tribes.

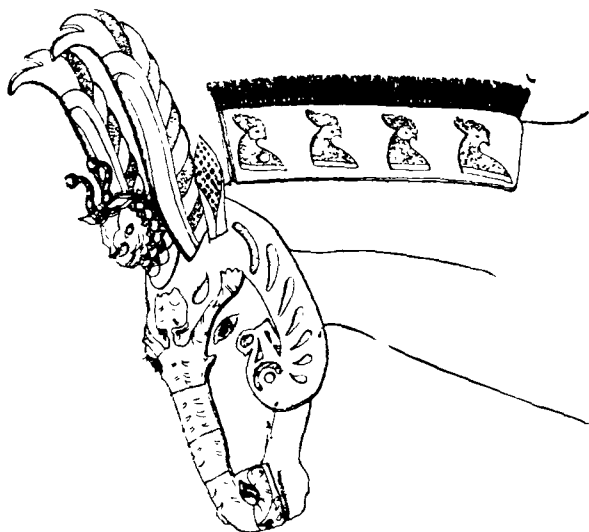


FIG. 1. Reconstruction of mask on head of one horse, Pazirik burial, Altai.

Minusinsk

A very important attempt in the tentative reconstruction of the succession of cultures in the Minusinsk region was made by S. A. Teplouhov, who has published a preliminary classification and arranged the collections illustrating it in the State Russian Museum in Leningrad. He distinguishes the following:

1. The typical Middle Yenisei Palaeolithic culture with bone and stone industries.
2. The most ancient metal culture "Afanasiev type."
3. The Andronov culture (18-15 c.b.c.).
4. The Karasuk culture appearing about the 10th century A.D.—beginning of the animal style."
5. The Minusinsk kurgan culture lasting from the 10th century up to our era; the classical culture of Minusinsk, the peak of the development of art.

6. Tashtic culture (3rd-7th century A.D.)—alabaster masks.
7. Khirgiz graves of the 8th to 10th century.
8. Graves of 9th to 13th century (little known).
9. Graves of 13th to 14th century with silk brocades, silver ornaments, etc.

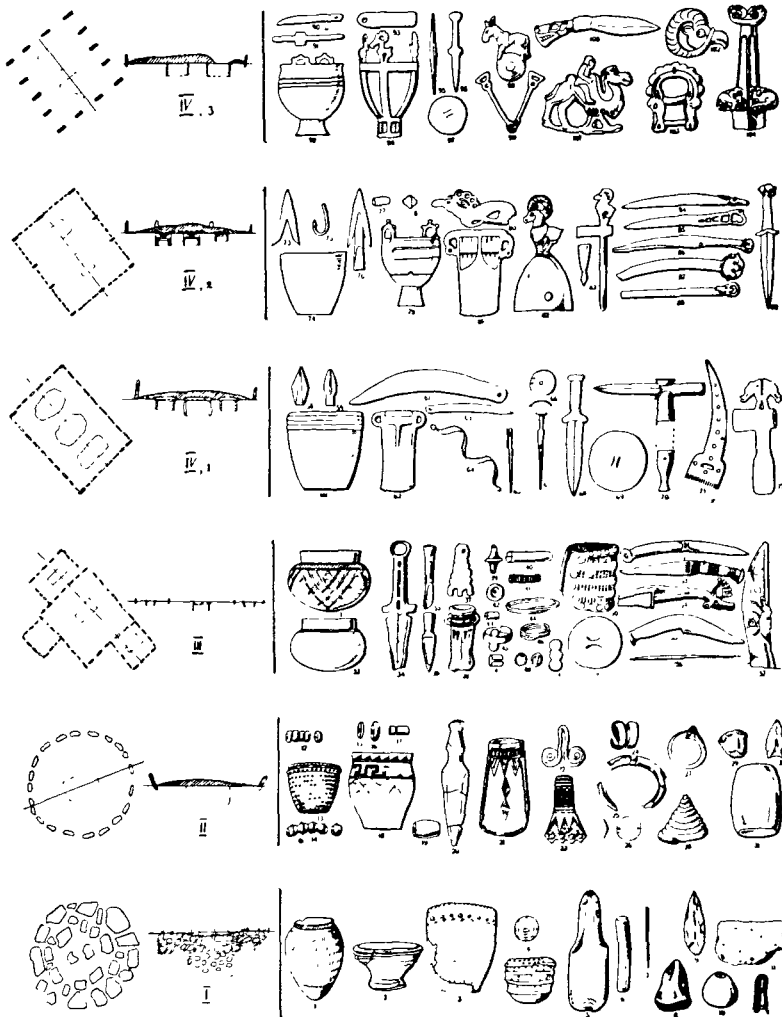


FIG. 2 Teplov's classification: *I*, Afanasiev culture; *II*, Andronov culture; *III*, Karasuk culture; *IV*₁, *IV*₂, *IV*₃, Minusinsk Kurgan culture.

The attached diagrammatical outlines may illustrate the furniture of the different periods (figs. 2, 3). The writer photographed all the most im-

portant objects illustrating the collection, and a more detailed report accompanied by those illustrations is being prepared for publication in the near future. In addition to the archaeological material illustrating the

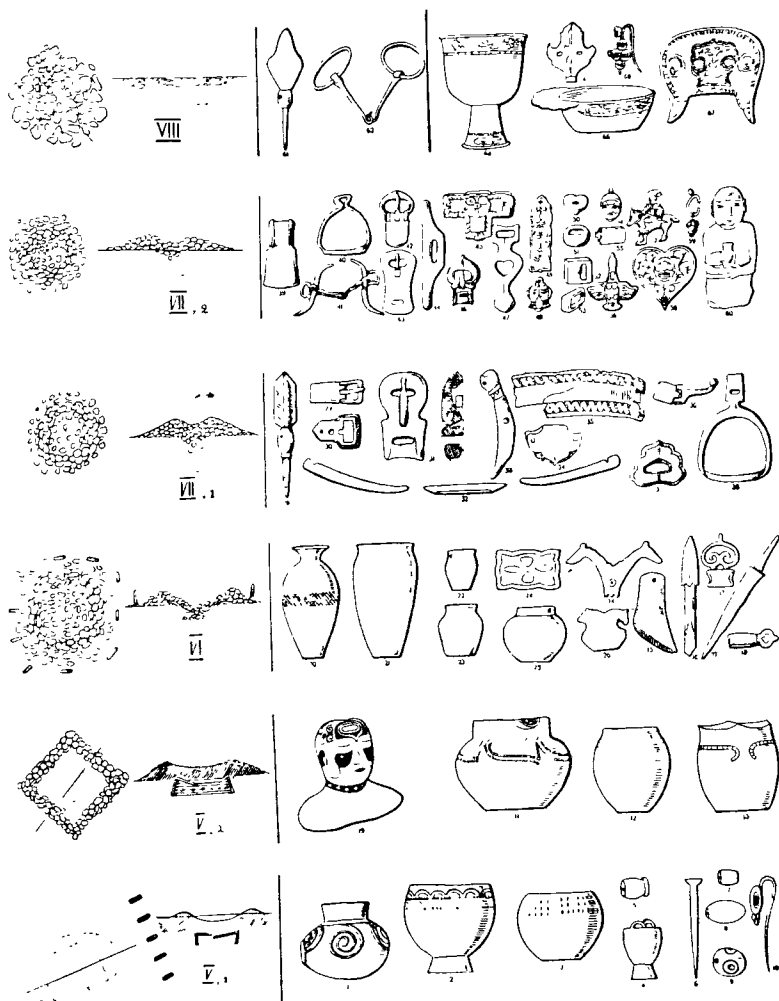


FIG. 3. Teplouhov's classification: V_1 , V_2 , Tashtic culture, VI, Kurgan 5th-7th century; VII₁, Kurgan 7th century; VII₂, graves 9th-13th century; VIII, graves, 13th-14th century.

Minusinsk and Altai regions, the writer obtained a number of photographs and several manuscripts dealing with the modern population of those re-

gions, making it possible to combine ethnographical pictures of the region with its history.

The spectacular finds of Kozlov's expedition in Mongolia are well known, and it is felt that very little can be added in this general report. Of course, a number of interesting additional points and correction of existing English accounts can be made, but all this should constitute a separate article.

Following the example of Teplouhov, a similar attempt at reconstruction was made for the Altai by M. P. Griaznov, who distinguishes the following:

- Neolithic period (Chudatskaya Gora, Yan-Ulgan).
- Pseudo-Afanacievo (Klepikovo, Kamishenka, etc.).
- Andronov culture (Ust-Kamenogorsk, Biisk).
- Karasu culture (Bolsherechensk, Fominskoe).
- Late bronze (Yeniseiskoe, Chekaniha).
- Early Iron culture (Kurgans of Buhtarma, Katanda, Biisk).
- Middle Iron culture (Kudirge graves).
- Late Iron culture (Kurgans of the first group near Srostki).

There is some literature illustrating the above cultures more in detail.

NEW IDEAS

Lack of time and abundance of material have prevented the writer from making anything like a survey of the results of work in Physical Anthropology and Ethnology of living groups. Still it appears necessary to say a few words concerning the two new organizations, whose work is related to ethnological studies.

The Institute of Northern Tribes in Leningrad

This organization, unique in its structure and purpose, requires a few words of explanation. In 1925-26, V. G. Bogoras Tan and V. P. Koshkin organized 26 native students at the Leningrad University into a "Northern Group," which besides academic work was to study the problems of its native land. From 1926 to 1928 the group increased to 185 students from 31 tribes. It changed its structure and some of its activities, existing under the name of the Northern Division of the Leningrad Oriental Institute. In 1928 appeared the first issue of a journal in Russian, *The Taiga and Tundra*; all articles were written by the students without any editing by their Russian teachers. In 1930 the number of students had increased to 322. In 1931 a group of 120 students separated from the mother organization and became a part of the Oriental Institute.

At present the following tribes are represented: Tungus, Golgi, Ostiak, Samoyed, Gilyak, Koryak, Lopar, Lamut, Ude, Ulchi, Yukaghir, Vogul, Kamchadal, Orochi, Chukchi, Keto, Eskimo, Karagass, Shor, Dolgan, Chuvans, Aleut, Yurak, Yakut, Negidal, Zhirian.

There are 53 women out of the total number of 257 students remaining in the mother organization. The main purpose of the Institute is to prepare workers for the regions of the north and for the following activities: (a) Soviet constructivism; (b) cooperative work; (c) pedagogy. It endeavors to prepare workers not only capable themselves of reconstructing the native society in Soviet fashion, but who can also teach their brothers to do this.

All this requires a profound knowledge of the local conditions, consequently the investigation is done both by the students when home for the summer and by the faculty members during their academic year in the Institute. "Taiga and Tundra" contains numerous articles illuminating separate phases of native life. Much attention is given to the condition of women, shamanistic and other beliefs, native arts and crafts, hunting, fishing, and primitive agriculture.

The underlying idea, at least in theory, is to develop all worth-while methods and achievements, adding only some advantages of modern technique, such as better hooks, nails, and knives, without attempting to substitute modern methods if the old ones are advantageous. In the native arts the same tendency is pursued, resulting in the revival of bone and wood carving, some painting, and drawing.

Elementary modeling was taught with unusual results to tribes previously ignorant of the art. Thus, we have examples of sculpture done by Goldi, which have distinct local Amur river characteristics applied to the new medium.

The last but not the least of the activities of the Institute is to establish regional boundaries between tribal semi-autonomic districts. Self-determination, as advocated by Soviet Russia, requires re-mapping of the existing divisions. The language affiliations are taken as the most important guide for this work. This program includes education of illiterate groups in their own language. Extensive work is being carried on in the compilation of vocabularies and publication of text-books in the specially prepared alphabets. This is part of the general Soviet activity in this direction and has resulted in the issuing of books in 64 different languages. In this connection, some of the existing tribal names are changed, because they rest on mispronunciation, or even, as in the case of Samoyeds, on a nickname given by neighbors. Confusion results when often the same tribe is re-

ferred to by several different names, but no one can deny the advisability of designating a group by its own term.

Ethnographical Theatre

This is another unique organization. Organized previously and officially opened only in April of 1930, it is a spiritual child of the Leningrad Experimental Theatre and Russian Museum, existing today as a part of the Ethnological Division of the State Russian Museum. Its purpose is to represent dramatically the ethnography of different tribal groups. Complete acts, separate scenes, and concerts are the various means used by the theatre. The basic principle is to represent with the ethnographer's accuracy the customs, life, and behavior of the people, without losing dramatic unity. The repertory includes both presentations of provincial peasant customs and the life of such groups as Armenians, Ukrainians, Georgians, Osetts, Ude, Ostyak, Samoyed, etc.

The material is compiled from ethnographical monographs; from phonographic records, many of which have been collected in the past; and from special moving pictures of dances taken by the expeditions in the field. The real museum costumes and paraphernalia are used. The educational value of this organization is very great. In 1931 there were 81,189 paying visitors, a very good indication of the success of this attempt to bring ethnography to the masses.

Methodology

In shaping their field and museum activities Russian anthropologists realize that a complete picture of any people is impossible without correlated evidence from physical anthropology, linguistics, archaeology and ethnography. The results of such "complex" expeditions are of much higher value, especially when augmented by geologists, botanists, zoologists, and medical investigators, who get information in their specific lines that pertains to anthropology but is rarely secured by the anthropologist himself.

The planning of activities to avoid duplication and omission, the filling of gaps or concentration on the most important problems of the time, give a possibility of a much more comprehensive survey, which is especially important in a country the size of Russia.

The "stationary method" of investigation, especially in ethnography is being very much stressed, enabling the investigator to learn the language of the people, get acquainted with his surroundings, and to witness the whole yearly cycle of activities, including seasonal festivals, which may often escape the attention of the student who spends, like most of our anthropologists, only from one to four months in the field.

This, of course, is reflected in museum technique, so that one can often see in one room ethnographical and archaeological objects. The whole theory of museum expositions has undergone a change. The endeavor is to represent a cross-section of the life of given groups, illustrating the activities of all social and economic groups by exhibiting the most important objects, and not to cram the cases with hundreds of Benin bronzes, so that one cannot even see the objects, as is the case in some of our museums.

Most liberal use is made of labels, charts, maps, diagrams, etc., explaining the exhibits and enabling unprepared visitors to understand the most important phases of the collection from the Russian point of view.

Perhaps because museums are not supposed to serve only a very limited group as before the revolution, every effort is used to make their activities part of the general social activities of the Union. As a result, these new ideas and their technical execution have brought many thousands of new types of visitors. Organized visits with docents explaining the exhibits are among the most important activities of museums, and every specialist, barring none, does his share in this educational work.

OPPORTUNITIES FOR EXCHANGE

Arrangements for exchange of publications, photographs, collections, and general information were made with the following institutions: State Hermitage, The State Academy of the History of Material Culture, The State Russian Museum Ethnographical Section, The Museum of Anthropology and Ethnography of the U.S.S.R. Academy of Sciences, The U.S.S.R. Academy of Sciences, The Institute of Northern Tribes.

As a result, the University Museum is recording upward of 600 photographs, 300 volumes of books, some 20 original manuscripts to be placed in American journals, and 5 ethnographical collections composed of 600 objects of the Altaian, Kumandin, Shor, and Hakas groups in Siberia.

The following manuscripts have been received: L. Dinitzes, "The Tripolie Culture"; M. P. Griaznov, "The Pazirik Burial of Altai," "The History of the Ethnographical Theatre"; A. Popov, "The Shamanistic Cure of the Blacksmith among the Yakuts"; N. P. Direnkova, "The Soul Beliefs of Altayans."

In addition, arrangements were made with the vice-president of G.A.I.M.K. (The State Academy of the History of Material Culture) to supply the University Museum regularly with correct information on activities in archaeology and ethnography in the U.S.S.R. The Academy also expressed to the Director of the University Museum its readiness to cooperate in the organization of joint expeditions for archaeology and anthro-

pology in the territory of U.S.S.R. The Academy is also willing to arrange contacts between American institutions and Russian scientific bodies.

SUGGESTIONS

The trip described above will have value only if followed by measures to encourage cooperation. With this end in view, I venture to make a few suggestions:

It seems that the first thing to do would be to compile a comprehensive bibliography of Russian works. This should be arranged alphabetically, geographically, and topically. Each card should give the title in the Russian alphabet, the English transliteration, and the English translation. A note should explain the general scope of the work, because unfamiliar terminology or geographical terms may make it difficult to grasp the contents from the translation of the title alone. The cards could be mimeographed and distributed among the sponsoring institutions.

A special organization consisting at first of two members should be established to make available to Russian scientists reports of the important scientific activities in the United States. The same bureau would have to translate the periodical reports of the same nature which are expected to come from similar organizations established in the State Academy for the History of Material Culture. The method of distribution of the information received may be also by mimeographic copies. This Bureau should also handle all correspondence with the Russian museums regarding exchanges of books, photographs, manuscripts, and collections, and should undertake to obtain the materials requested by Russians from the different institutions on this side. This service should be extended only to sponsoring institutions, while the courtesy of arranging the first direct contacts may be given to all others.

A translation of the major works should be made, while extracts, reviews, and summaries would suffice for those less important. The results for the time being could be mimeographed or published in part in various existing scientific journals, such as the *American Anthropologist*, *Journal of Physical Anthropology*, etc.

To promote cooperation, Americans should take all possible opportunities for arranging joint expeditions, publishing in American journals the original papers by Russians, sending representatives to the scientific congresses in Russia, and extending similar invitations to ours, to meet the proposal of scholarships as offered by Russian scientific institutions for American students, and to endeavor to arrange for the same in our universities and institutions.

At some future time there should be started a special journal devoted to anthropological and archaeological activities in Soviet Russia, like the *Eurasia Septentrionalis Antiqua* as published in Helsingfors by Tallgren.

UNIVERSITY MUSEUM

PHILADELPHIA, PENNSYLVANIA

ON Monday, September 5, 1932, Francis La Flesché died at the home of his brother Carey, in the Omaha Indian community near Macy, Nebraska, where on the following Thursday he was buried with tribal rites and Masonic services, he being a member of this society. He was in his seventy-fifth year, having been born on December 25, 1857. In his near family, he is survived by his brother and by a sister, Mrs. Marguerite Giddock of Walthill, Nebraska. A second sister, Susette, who became Mrs. T. H. Tibbles, widely known as "Bright Eyes," was a notable champion of the rights of the Indian peoples. She died in 1902.

Francis La Flesché was a son of Estamaza, or "Chief Joseph" La Flesché, himself son of a French trader and an Omaha mother. He was thus in part of European descent, although the preponderance of his blood was Indian, for his own mother was of the tribe. Perhaps it is important in understanding the work and thought of the junior La Flesché to know that his father, while yet a youth, his parents having separated, chose the life of the Indian rather than that of the white man, and cast his lot with his mother's people. He had, however, seen enough of the white man's ways to understand its perils, and knowing the eventual fusion of the two peoples to be inevitable, he guarded his tribe as best he could against the trader's liquor and encouraged the education of the youth of his people in the mission schools. His own son, Francis, was sent to the Presbyterian Mission School, at Bellevue, Nebraska, and his experiences there are recorded in *The Middle Five*, which is certain to remain one of the classics of our native American literature. It pictures the habituation of the Indian boy to the modes and ideas of American life—albeit at a frontier level—and shows even here in his early childhood that sense of critical kindliness which characterized Francis La Flesché to the last. It must not be supposed that young La Flesché missed out on the side of the native life. In his youth the Omaha still followed the annual buffalo hunt, and when only fifteen he covered a hundred miles as a runner in some eighteen hours, discovering the first herd of the season. He also was a participant in the ceremonial life, and in his early childhood filled the rôle of the sacred Child when the Wawan (or Hako) ceremony was participated in by the Omaha and the Pawnee.

In his early twenties La Flesché accompanied the Ponca chief Standing Bear on an eastern tour, presenting the cause of the Indians. His skill as interpreter, coupled with his obvious fairness and rectitude attracted the



Francis La Flesche

attention of Senator Kirkwood, who upon taking his post as Secretary of the Interior called La Flesche into the Office of Indian Affairs. While in that service he entered the National University, receiving his degree from the School of Law in 1893. In 1906 Mr. La Flesche married Rosa Bourassa, of Chippewa descent, from whom he was later divorced. In 1910, through the instrumentality of Mr. F. W. Hodge, then ethnologist-in-charge, La Flesche was transferred to the service of the Bureau of American Ethnology, with which he continued until December 26, 1929, when he retired to pass his last years with his relatives in Nebraska. During his long career as an ethnological investigator La Flesche achieved distinction as scientist and scholar. He was a member of the A.A.A. and the A.A.A.S., and was president of the Anthropological Society of Washington in 1922-23. In 1926, in recognition of his literary and scientific achievements and of his contribution to the history and lore of the tribes living in Nebraska, he was given the honorary degree of Doctor of Letters by the University of Nebraska.

The life-work of La Flesche resulted in two great series of studies which are as profoundly instructive as any material which we possess dealing with the American Indians, and which are certain to be of permanent value. The first of these groups of studies concern his own tribe, the Omaha. To the Omaha Alice Fletcher came in 1881, beginning a connection which was to last through many years, and to result in the publication of *The Omaha Tribe*, in the 27th Annual Report of the Bureau of American Ethnology. In the assembling of the rich materials in this volume, La Flesche was Miss Fletcher's collaborator, and while the text is from her pen, the materials are the more due to him. This work, occupying for its full development near a quarter of a century, became possible through the intimate and beautiful relation of Mr. La Flesche to Miss Fletcher, such that he was to her a veritable son-by-adoption, a relation which lasted until her death in 1923. Apart from the materials in this volume Dr. La Flesche contributed numerous other papers upon his tribesmen and at the time of his death left a partially completed dictionary of the Omaha language.

The second series, belonging to La Flesche's later period, is composed of his studies of the ritual life of the Osage, a people near in kinship to his own. These studies, under the general title *The Osage Tribe*, are embodied in the 36th, 39th, 43d, and 45th Annual Reports, and in the *Dictionary of the Osage Language*, Bulletin 109, of the Bureau. They embrace texts and translations, accompanied by full exposition, of the more important rituals of this significant tribe, and collectively form what is certainly the most complete single record of the ceremonies of a North American Indian

people. The reports are marked by a clearness of exposition and a philological care which alone insure them place as scholarly achievements; but beyond this they undoubtedly possess an especial value, not only as being the work of a racially native American, but also because the mind of the observer was gifted with an acuteness of understanding and a gift of imaginative sympathy which made of him a leader among our interpreters of Indian thinking.

And from this we may pass, I trust, to one final estimate, that of Francis La Flesche as a man and friend. Among Indians and white men alike his contacts were numerous, and both races turned to him with an immediate trust and direct admiration. In every way modest and unassuming, he was none the less gifted with a social humor that was always delightful and with an instinctive kindliness which won the heart. Intellectually he was forthright and conscientious and fully alive to the meaning of quality in the work which he achieved. But beyond this competence lay another, for he was never for a moment narrowed by any sense of race or racial prejudice. The *Middle Five*, published in 1900, was dedicated "To the Universal Boy," and in the simple preface the author said,

the object of this book is to reveal the true nature and character of the Indian boy; and shunning every appeal of the merely picturesque or the romantic, he gave the simple picture of the daily life of Indian children in their school of sixty years ago, all in the hope that

it may help these little Indians to be judged, as are other boys; by what they say and what they do.

Not other was his attitude throughout life: he preserved the records of his people, that by men to come they may be judged "by what they say and what they do." It is a service for which the world will long be grateful to Francis La Flesche.

SCRIPPS COLLEGE
CLAREMONT, CALIFORNIA

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1926. Ethnological Work Among the Osage of Oklahoma. *In* *Explorations and Field-Work of the Smithsonian Institution* in 1925. SI-MC 78, no. 1. 117-119, Washington.
1927. Omaha Bow and Arrow Makers. SI-AR for 1926. 487-494, Washington.
1932. A Dictionary of the Osage Language. BAE-B 109, Washington.

In addition, the following four papers are at present in manuscript form at the Bureau of American Ethnology:

- A Dictionary of the Omaha Language.
A Study of Discoidal Pipes.
The Wa-sha'-be A-thin or War Ceremony of the Osage Tribe.
The Wa'-wa-thon Peace Ceremony of the Osage Tribe.
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REPORTS

PROCEEDINGS OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION FOR THE YEAR ENDING DECEMBER, 1932

The American Anthropological Association held its thirty-first annual meeting at the Marlborough-Blenheim Hotel, Atlantic City, New Jersey, on December 28-30, 1932, in conjunction with Section H of the American Association for the Advancement of Science, and with the American Folk-Lore Society.

COUNCIL MEETING, DEC. 28, 5.00 P. M.

President John R. Swanton in the chair. The minutes of the Andover meeting, 1931, were not read, but were approved as printed in the *American Anthropologist*, vol. 34, no. 2.

REPORT OF SECRETARY

The President appointed the following committees and representatives during the year: Research Committee—Drs. J. R. Swanton (chairman *ex officio*), F. Boas, A. Radcliffe-Brown, R. B. Dixon, A. V. Kidder, A. L. Kroeber, R. Linton, R. H. Lowie, E. Sapir, A. M. Tozzer, C. Wissler, J. M. Cooper.

Nominating Committee—Drs. J. A. Mason (chairman), R. F. Benedict, R. Linton.

Program Committee—Drs. F. H. H. Roberts, Jr. (chairman), A. I. Hallowell, A. M. Tozzer.

On joint nomination of the Smithsonian Institution, Section II of the American Association for the Advancement of Science, and the American Anthropological Association, the following American representatives in the International Congress of Prehistoric and Protohistoric Sciences were elected by the Congress: Members of the Permanent Council, G. G. MacCurdy and A. L. Kroeber, National Secretaries, Harriet M. Allyn and Carl E. Guthe.

An informal preliminary meeting of the Research Committee was held on April 23, 1932, at the National Research Council offices, Washington, D. C. A formal meeting of the Committee, called for the purpose of drawing up plans for a major field survey of vanishing primitive cultures, was held in the offices of the Social Science Research Council, New York City, on May 14, 1932. All members of the Committee were present. Dr. G. G. MacCurdy and Dr. Robert S. Lynd also sat in. The business of the meeting being still unfinished at the end of the all-day meeting, the following sub-committee was appointed with power: Drs. Boas, Radcliffe-Brown, Sapir, Tozzer, Wissler. The sub-committee met at the same place on May 21, 1932. A memorandum outlining the project was sent June 24, 1932, to the Rockefeller Foundation. The President of the Foundation, by letter of Nov. 28, 1932, replied stating it was not possible at present for the Foundation to finance the whole project.

The membership of the Association, as of December 1, 1932, is as follows:

Number of members	961
Honorary ..	0
Life ..	10
Regular	951
Deceased during 1932	7
Dropped " "	35
Resigned " " .	88
Admitted " " .	70

The Association has lost by death during the year seven members: Erlend Nordenskiöld (honorary member), William K. Bixby (life member), J. C. Clarke, A. Genin, W. de F. Haynes, Cuno H. Rudolph, John E. Teeple.

The Secretary attended the Eighth Annual Conference of the Secretaries of the Constituent Societies of the American Council of Learned Societies, at Washington, D. C., January 29, 1932.

Respectfully submitted,
JOHN M. COOPER, *Secretary*

It was voted that the Secretary's report be accepted.

REPORT OF TREASURER

REGULAR FUND

Receipts

Balance on hand December 1, 1931 (exclusive of Royalty Memoirs Fund)			\$2,993.07
Membership dues:			
American Ethnological Society	\$	723.00	
Anthropological Society of Washington		258.75	
Central States Branch		342.50	
American Anthropological Association			
1930	\$	12.00	
1931		122.99	
1932		3,120.23	
1933		450.35	
1934		3.70	
		<hr/>	
		3,709.27	5,033.52
Sale of Publications	\$	570.22	
Reimbursements		784.44	
Interest		138.12	
		<hr/>	
			1,492.78
			<hr/>
			\$9,519.37

Disbursements

American Anthropologist			
George Banta Publishing Company and Oakland			
National Engraving Company			
Printing	\$2,884.28		
Illustrations	628.05		
Distribution	192.57		
Storage, insurance	68.50		
Reprints	328.14	\$4,101.54	
	<hr/>		
Memoir 38		557.42	
Editor's expenses		547.50	
Treasurer's expenses		480.11	
Secretary's expenses		96.78	
Out-of-print publications		296.22	\$6,079.57
		<hr/>	
		3,439.80	\$9,519.37

Resources

Cash on hand, November 30, 1932			\$3,439.80
Due from sales	\$	41.40	
Due from dues:			
1931 American Anthropological Association		210.00	
1932 American Anthropological Association	\$	312.00	
American Ethnological Society		75.00	
Central States Branch		131.25	518.25
		<hr/>	
		3.69	773.34
Due from reimbursements			<hr/>
			\$4,213.14

<i>Liabilities</i>			
Membership dues for 1933-34 already paid	\$	454.05	
Net excess resources over liabilities		3,759.09	\$4,213.14

PERMANENT FUND

<i>Receipts</i>			
Balance, December 1, 1931			\$3,165.24
Interest at 4% on Savings Account, Jan. 1	\$	57.75	
Interest on Liberty Bonds, April		6.36	
Interest at 3½% on Savings Account, July 6		58.53	
Interest on Liberty Bonds, October		6.39	129.03
			<u>\$3,294.27</u>

<i>Investments</i>			
Liberty Bonds (three)	\$	291.09	
Cash in Savings Account, Nov. 30, 1932		3,003.18	\$3,294.27

INDEX FUND			
Balance, December 1, 1931	\$1,047.35		
Interest	40.18		\$1,087.53

MEMOIRS FUND

<i>Receipts</i>			
From Royalties, 1931	\$	33.00	
From Royalties, 1932		15.60	
From Laboratory of Anthropology, for publication of Kroeber et al., Memoir		1,000.00	
From National Academy of Sciences for publication of Lattimore and Herskovits Memoirs		750.00	
			<u>\$1,798.60</u>

EXPENDITURES AGAINST 1932 BUDGET

	<i>Allowed</i>	<i>Spent*</i>	<i>Balance</i>
Secretary's expenses	\$ 100.00	\$ 66.88	\$ 33.12
Editor's expenses			
Editor's assistant	\$ 480.00	\$ 480.00	
Office expenses	120.00	67.50	
	<u>600.00</u>	<u>547.50</u>	52.50
Treasurer's expenses			
Treasurer's assistant	360.00	360.00	
Office expenses	100.00	76.87	
Membership expenses	80.00	17.78	
American Council Learned Societies		25.00	
	<u>540.00</u>	<u>479.65</u>	60.35
American Anthropologist			
Printing	\$3,150.00	2,884.28	\$ 265.72
Illustrations	640.00	578.05	61.95
Reprints	400.00	204.74	†195.26
Distribution	200.00	192.57	7.43
Storage, insurance on back numbers	70.00	68.50	1.50
	<u>4,460.00</u>	<u>3,928.14</u>	531.86
Out-of-print publications			
Purchase	100.00	34.54	65.46
Photostat reproductions	200.00	261.68	-61.68
	<u>300.00</u>	<u>296.22</u>	3.78
Totals	\$6,000.00	\$5,318.39	\$ 681.61

* This column lists net expenditures, i.e., gross expenditures less reimbursements.

† Bill for reprints of articles in the October-December Anthropologist has not yet been received; hence the balance for reprints is excessive.

REGULAR RECURRENT INCOME AND EXPENDITURES

<i>Income</i>				
	1929	1930	1931	1932
Memb. dues from affil. societies at \$5	\$1,166.00	\$1,653.50	\$1,198.50	\$1,324.25
Memb. dues collected directly at \$6 (less subscription commissions)	4,000.22	3,756.84	3,919.92	3,703.32
Total dues. . . .	5,166.22	5,410.34	5,118.42	5,027.57
Sales of publications	535.15	533.42	729.21	570.22
Interest and royalty . . .	148.50	153.00	153.00	153.72
Total	\$5,849.87	\$6,096.76	\$6,000.63	\$5,751.51
<i>Expenditures</i>				
American Anthropologist, printing and illustrations:				
No. 4 of preceding year (part). . .		\$ 643.09	\$ 104.42	
Nos. 1-3 of year.	\$2,918.41	2,904.11		
No. 4 of year, part	646.32	538.84		
No. 1 of next year		65.90		
Nos. 1-4 of year			3,349.55	\$3,462.33
Total	\$3,564.73	\$4,142.84	\$3,453.97	\$3,462.33
Anthropologist and Memoirs (distrib., storage, insur., net cost gratis reprints) . .	\$ 521.79	\$ 507.29	\$ 583.77	\$ 465.81
Memoirs: print. and ill. paid by Assoc.		539.72		
Total account publication	4,086.52	5,189.95	4,037.74	3,928.14
Sec'y, Treas., and Ed.'s offices	1,187.07	1,141.74	1,272.47	1,094.03
Reprinting and purchase out-of-print publs.	79.90	118.28	181.31	296.22
Total. . . .	\$5,353.49	\$6,459.97	\$5,491.52	\$5,318.39
Surplus carried over.	\$ 496.38		\$ 509.11	\$ 433.12
Deficit. . . .		\$ 363.21		

The present bank balances in the four funds of the Association stand as follows:

Regular fund,	\$3,439.80
Permanent fund,	3,003.18
Index fund,	1,087.53
Memoirs fund,	1,798.60

This makes a total of \$9,329.11, of which \$8,590.71 is in a savings account (Bank of America), drawing interest at $3\frac{1}{2}$ per cent. The amount in the checking account on November 30 is \$738.40.

In view of the Association's financial condition, it is urged that the budget for 1933 be limited to a total of \$5,750. The Editor concurs with me in this recommendation.

Respectfully submitted,
E. W. GIFFORD, *Treasurer*

It was voted that the Treasurer's report be accepted, subject to the findings of the Auditing Committee.

The President appointed the following Auditing Committee. Drs. A. L. Kroeber and R. L. Olson.

The President appointed the Executive Committee of the American Anthropological Association to serve as a Budget Committee and to report to the Association at the annual meeting, December 29, 1932.

REPORT OF AUDITING COMMITTEE

The undersigned, appointed as Auditing Committee by the Council of the Association, report that they have examined the Treasurer's accounts as submitted, and find them correct.

They also recommend that the funds of the Association held in savings accounts be distributed among at least three depositories, in conformity with established usage for trust investment funds.

A. L. KROEBER

R. L. OLSON

March 24, 1933

REPORT OF EDITOR

The appearance in October of number 4 of the *American Anthropologist* completed the 750-page volume for 1933, with all charges of publication defrayed as in the previous year.

A six percent reduction, initiated with number 4 of this year, in cost of stock, presswork, binding, and composition was secured from the George Banta Publishing Company by the Treasurer, who hopes to obtain increased percentages of reduction on issues during 1933.

One Memoir, Leslie White's *The Pueblo of San Felipe* was published in 1932 under the auspices of Dr. Elsie Clews Parsons. Dr. Parsons' *Hopi and Zuni Ceremonialism*, a Memoir also financed by her, will appear in February of 1933. Last year the National Academy of Sciences voted a grant of \$1000, which with an equal subsidy from the Santa Fé Laboratory of Anthropology will render possible the publication of a memoir on the Walapai by Professor Kroeber and collaborators; the field work was done under the auspices of the Laboratory. This year the Editor again made a plea to the Academy for a subsidy to enable him to publish two long papers as memoirs, viz., Lattimore's *The Gold Tribe*; "Fishskin Tartars" of the Lower Sungari, and Melville J. and Frances S. Herskovits' *An Outline of Dahomean Religious Belief*. Our Treasurer has been notified of favorable action by the Academy's Committee and has received \$750, the amount asked for.

Breitkopf and Härtel reproduced during the year volume 16, number 2 which had been out of print. In 1933, with the Council's approval of budget recommendations, number 3 of the same volume will be reproduced.

Dr. Frank H. H. Roberts, Jr., of the Bureau of American Ethnology, who was appointed an Associate Editor of the *American Anthropologist* at the December, 1932 meeting of the Association, has greatly aided the Editor in helping him determine the desirability of publishing prospective contributions in the field of North American archaeology. Thanks are due to him and once more to the other Associate Editors.

At the time of the annual meeting the Editor will have completed the ninth year of his administration. He will be glad to complete a decade of service if the Association should be pleased to re-elect him, but must serve notice that it will be definitely impossible for him to do so after the close of 1933.

Respectfully submitted,

ROBERT H. LOWIE, *Editor*

It was voted that the Editor's report be accepted.

The President appointed the following Committee on Resolutions: Drs. Fay-Cooper Cole, H. J. Spinden.

It was voted.

That the invitation of the International Institute of African Languages and Cultures to the American Anthropological Association to become a member of the governing body of the Institute be accepted.

That the American Anthropological Association meet with the American Association for the Advancement of Science at Chicago in June 1933, preferably at dates between June 19 and 26.

That the American Anthropological Association request the officials of the Century of Progress Exposition to invite an anthropologist in place of the anthropologists previously invited from abroad to attend the June meeting as guests but who were unable to come, the Executive Committee of the American Anthropological Association to suggest to the Exposition authorities the name of the foreign anthropologist chosen by the Committee.

That Dr. Walter E. Roth, Georgetown, British Guiana, be elected an honorary member of the American Anthropological Association

That the Executive Committee of the American Anthropological Association study the problem of honorary membership in the Association, and select and recommend to the next meeting a list of honorary members to be elected

That Dr. MacCurdy's resignation as representative of the American Anthropological Association on the Supervisory Board of the American Year Book Corporation be accepted with regret.

ANNUAL MEETING, DECEMBER 29, 2:00 P.M.

President John R. Swanton in the chair The following officers, Council members, representatives to councils and associations, and new members of the American Anthropological Association* were submitted by the Nominating Committee (Drs. Mason, chairman, Benedict, Linton) and were elected:

President, Fay-Cooper Cole

First Vice-President, H. C. Shetrone

Second Vice-President, C. C. Willoughby

Secretary, J. M. Cooper

Treasurer, E. W. Gifford

Editor, R. H. Lowie

Associate Editors, E. W. Gifford, F. G. Speck, F. H. H. Roberts, Jr.

Executive Committee, Ruth Bunzel, W. D. Strong, C. Wissler

Council

New Members: C. M. Barbeau, G. T. Bowles, G. H. Fox, B. Haile, D. G. Haring, G. Herzog, F. de Laguna, E. Kopta, P. A. Means, H. P. Mera, N. Morss, J. L. Nusbaum, L. M. O'Neale, L. Outhwaite, A. R. Radcliffe-Brown, M. J. Rogers, L. Satterthwaite, Jr., R. Thurnwald, R. Underhill, A. Woodward (1936).

S. A. Barrett, M. W. Beckwith, R. F. Benedict, C. W. Bishop, F. Blom, C. S. Coon, C. B. Davenport, V. J. Fewkes, E. F. Greenman, G. B. Grinnell, E. Gunther, A. I. Hallowell, M. J. Herskovits, A. E. Jenks, N. M. Judd, R. Linton, J. C. McGregor, B. Oettinger, A. C. Parker, V. Petrullo, G. Reichard, Helen M. Roberts, J. H. Steward, M. W. Stirling, R. J. Terry (1936).

Harriett M. Allyn, Manuel Andrade, R. F. Barton, Wendell C. Bennett, H. Bingham, L. Bloomfield, Biren Bonnerjea, Charles Brown, P. H. Buck, R. Bunzel, Douglas Byers, Emile Cailliet, William H. Claflin, W. B. Cline, C. B. Cosgrove, C. H. Danforth, D. S. Davidson, Ellsworth Faris, H. Field, Reo Fortune, Lawrence Foster, E. W. Gifford, E. A. Golomshok, W. D. Hambly, M. R. Harrington, L. Havemeyer, C. H. Hawes, J. N. Hewitt, E. B. Howard, M. Jacobs, D. Janness, Charles R. Keyes, Berthold Laufer, Charles T. Loram, R. H. Lowie, T. F. McIlwraith, Robert McKennan, Paul S. Martin, J. A. Mason, M. Mead, W. K. Moorehead, C. B. Moore, George P. Murdock, N. C. Nelson, P. H. Nesbitt, W. F. Ogburn, Frans M. Olbrechts, A. T. Olmstead, E. C. Parsons, E. K. Putnam, O. Ricketson, Henry B. Roberts, Carl Rupert, J. T. Russell, Jr., E. Sapir, M. H. Saville, Max Schrabisch, A. H. Schultz, D. Scott, Frank M. Setzler, H. I. Smith, W. D. Strong, J. Eric Thompson, G. C. Vaillant, H. Webster, A. E. White, L. A. White, C. C. Willoughby, W. J. Wintemberg George Woodbury (1935).

* The names of the new members are published in the complete membership list of the Association in the last issue of the American Anthropologist.

C. Amsden, H. Beyer, P. A. Brannon, J. H. Breasted, K. M. Chapman, F. E. Clements, H. S. Colton, J. M. Cooper, T. Deuel, K. P. Emory, G. Engerrand, Lucy Freeland, Anna H. Gayton, M. R. Gilmore, H. S. Gladwin, Charlotte D. Gower, W. K. Gregory, S. J. Guernsey, E. C. Guthe, H. U. Hall, E. S. Handy, L. L. Hargrave, J. P. Harrington, C. L. Hay, M. Hellman, L. W. Jenkins, J. H. Kellogg, Isabel T. Kelly, A. V. Kidder, O. LaFarge, A. Lesser, E. M. Loeb, W. C. MacLeod, T. Michelson, E. H. Morris, C. B. Osgood, H. Powdermaker, W. A. Ritchie, F. H. H. Roberts, Jr., L. Schellbach, H. C. Shetrone, V. Stefansson, J. B. Stetson, Jr., T. W. Todd, W. L. Warner, G. Weltfish, G. D. Williams, F. R. Wulsin (1934).

R. B. Bean, Fay-Cooper Cole, H. B. Collins, Jr., B. Cummings, F. Densmore, A. C. L. Donohugh, S. Hagar, G. G. Heye, E. A. Hooton, H. Kelley, H. W. Krieger, W. M. Krogman, S. K. Lothrop, R. C. Mackaye, W. C. McKern, Z. Nuttall, R. L. Olson, J. E. Pearce, R. Redfield, E. B. Renaud, H. L. Shapiro, F. G. Speck, L. Spier, Ellen Spinden, H. J. Spinden, F. Starr, Ruth Sawtell Wallis, W. D. Wallis, H. N. Wardle (1933).

Past Presidents (ipso facto members of the Council) F. Boas, W. H. Holmes, R. B. Dixon, F. W. Hodge, A. L. Kroeber, C. Wissler, W. Hough, A. Hrdlička, M. H. Saville, A. M. Tozzer, G. G. MacCurdy, J. R. Swanton.

Representative to Social Science Research Council R. Linton (to Dec. 31, 1935).

Representatives to National Research Council S. A. Barrett, M. J. Herskovits (to June 30, 1936).

Representatives to Section H, A. A. A. S. H. L. Shapiro, T. W. Todd (for 1933).

Representative to American Council of Learned Societies A. V. Kidder (to end of 1936).

The Budget Committee presented the following budget recommendations for 1933

1. Secretary's expenses		\$ 100
2. Editor's expenses		
Editor's assistant	\$ 480	
Office expenses	100	580
3. Treasurer's expenses		
Treasurer's assistant	\$ 360	
Office expenses	100	
Membership charges	25	
American Council Learned Societies	25	510
4. American Anthropologist		
Printing	\$3,050	
Illustrations	640	
Reprints	300	
Distribution	200	
Insurance, storage: back numbers	70	4,260
5. Out-of-print publications		
Purchase	\$ 100	
Photostat reproductions	200	300
Total		\$5,750

It was voted that the budget as submitted by the Committee be accepted.

It was further voted:

That the Association meet with the American Association for the Advancement of Science at Pittsburgh, Pa., in 1934.

That an appropriation of \$40 be made to cover the expenses of a meeting of the subcommittee of the Research Committee, to be held for the purpose of drawing up a further memorandum on the field survey of vanishing cultures.

The following resolution presented by the Committee on Resolutions was adopted:

Resolved, that the American Anthropological Association express to Madame Norden-skiöld their deep sympathy with her in the loss of her gifted husband, Erland Nordenskiöld, honorary member of the Association, and express as well their sincere appreciation of his splendid record of achievement.

PROGRAMME

WEDNESDAY, DECEMBER 28

9:30 A. M.

1. The Gila-Lower Colorado Tribes and the Heterogeneity of Cultures in the Southwest. (By Title) Leslie Spier, Yale University.
2. Archaeological Investigations in Eastern Arizona. (Lantern) Frank H. H. Roberts, Jr., Bureau of American Ethnology, Smithsonian Institution.
3. Prehistoric Cave-Dwellers in the Big Bend Region of Texas. (Lantern) F. M. Setzler, U. S. National Museum.
4. Some Remarks on Relations between Mexico and the Mississippi Valley. (Lantern) J. Alden Mason, University Museum, University of Pennsylvania.
5. Manuscripts of Southern Mexico. (Lantern) H. J. Spinden, Brooklyn Museum.
6. The Plains Culture Area in the Light of Archaeology. (Lantern) W. D. Strong, Bureau of American Ethnology, Smithsonian Institution.
7. Northeast Extension of Basket-Maker Culture. (By Title) E. B. Renaud, University of Denver.

2:00 P. M.

1. Marriage among the Amaxosa. (By Title) Charles T. Loram, Yale University.
2. The Meaning of Tribe in Bantu Africa, with Particular Reference to the Hehe of Tanganyika. (By Title) W. Bryant Mumford, British Colonial Service, Tanganyika Territory, South Africa
3. Cases of Dispute between Hindus and Muslims over Burial of Their Saints. (By Title) George W. Briggs, Madison, N. J.
4. The Ruvettus Hook. Diffusion or Independent Invention. (By Title) R. B. Dixon, Harvard University.
5. The Menhune of Hawaii. P. H. Buck, Bishop Museum, Honolulu, Hawaii.
6. The Relationship of Tasmanian and Australian Cultures. (Lantern) D. S. Davidson, University of Buffalo
7. Rank and Potlatch among the Haida. George P. Murdock, Yale University.

THURSDAY, DECEMBER 29

9:30 A. M.

1. Ballads of the Okefenokee Swamp. (Moving Pictures) Francis Harper, Swarthmore, Pa.
2. Sephardic Folklore in Tangier. Zarita Nahon, New York, N. Y.

Symposium: *Field Methods in Ethnology*

- (a) The General Approach. Fay-Cooper Cole, University of Chicago.
- (b) The Functional Approach. A. R. Radcliffe-Brown, University of Chicago.
- (c) The Folk-Lore Approach. Ruth F. Benedict, Columbia University.

2:00 P. M.

1. Delaware Peyoteism. Vincenzo Petrullo, University of Pennsylvania.
2. Motor Habits in Primitive Craftsmanship. Gene Weltfish, Columbia University.
3. Ethnology of the James Bay Region. John M. Cooper, Catholic University.
4. The Pattern Phenomenon in Primitive Music. Helen H. Roberts, Yale University.
5. Pawnee Religion. Alexander Lesser, Columbia University.
6. Notes on the Eastern Mono. (By Title) Erik K. Reed, Cambridge, Mass.

Annual Dinner of Section H of AAAS, AAA, and AFLS

7:00 P.M.

The New Anthropogeny: Twenty-five Stages in Vertebrate Evolution from Silurian Chordate to Man. Address of the Retiring Vice-President for Section H, A. A. A. S., William K. Gregory, American Museum of Natural History.

FRIDAY, DECEMBER 30

9:30 A.M.

Joint Session with American Association on Physical Anthropologists

1. A Study of Human Facial Profiles. Milo Hellman, New York, N. Y.
2. Proposed Experiments in Hybridization for the Purpose of Throwing Greater Light upon the Problem of Human Origin. Howell S. England, Detroit, Mich.
3. The Latest Old World Discoveries of Fossil Man. (Lantern) George Grant MacCurdy, Yale University.
4. Meshie, the Child of a Chimpanzee. (Motion Pictures) Harry C. Raven, American Museum of Natural History.
5. Observations on Sixty Male Chinese Skeletons. Aleš Hrdlička, U. S. National Museum.

2:00 P.M.

1. Prehistoric Disease, Medicine and Surgery. George S. Duncan, American University.
2. A. Bronze-Age Site in Persia. (Lantern) F. R. Wulsin, Providence, R. I.
3. Smithsonian Excavations at Marsoulas. (Motion Pictures) J. Townsend Russell, U. S. National Museum.
4. Work of the American Archaeological Expedition to Yugoslavia, 1932. (Lantern) Vladimir J. Fewkes, Peabody Museum, Cambridge, Mass.
5. Old Calumets. (Lantern) H. Newell Wardle, Sharon Hill, Pa.
6. The Psychology of Work among the Hopi. (Lantern) Ernest Beaglehole, Yale University.
7. Two Problems in American-Old World Parallels. W. C. MacLeod, University of Pennsylvania.

8:00 P.M.

Joint Session with American Association of Physical Anthropologists

The 1932 Smithsonian Explorations in Alaska. (Lantern) Aleš Hrdlička, U. S. National Museum.

JOHN M. COOPER, *Secretary American Anthropological Association*

REPORT OF THE ANTHROPOLOGICAL
SOCIETY OF WASHINGTON

The Anthropological Society of Washington at its annual meeting held on January 17, 1933, elected the following officers for the ensuing year:

President, J. N. B. Hewitt, Bureau of American Ethnology.

Vice-President, Matthew W. Stirling, Bureau of American Ethnology.

Secretary, Frank H. H. Roberts, Jr., Bureau of American Ethnology.

Treasurer, Henry B. Collins, Jr., U. S. National Museum.

Representative of the Anthropological Society to serve as one of vice-presidents of the Washington Academy of Sciences: N. M. Judd, U. S. National Museum.

Additional Members of the Board of Managers: Biren Bonnerjea, Catholic University; George S. Duncan, American University; Herbert W. Krieger, U. S. National Museum; Frank M. Setzler, U. S. National Museum; William Duncan Strong, Bureau of American Ethnology.

The following is a report of the membership and activities of the Society since the annual meeting held on January 19, 1932.

Membership:	
Life members	3
Active members	52
Associate members	6
Honorary members	22
Corresponding members	22
Total	105
Deceased	
Active members	2
Life members	1
Honorary members	1
Total	4
Resigned	
Active members	4
Associate members	1
New Members	
Active	3
Transferred	
Active to Associate	1

The Society lost through death the following members: Dr. Daniel Folkmar, past secretary, July 21, 1932, and Dr. Francis LaFlesche, past president, September 5, 1932, active members, Baron Erland Nordenskiöld, July 1932, honorary member, Mrs. F. Wilson Popenoe, December 30, 1932, life member.

Members resigning at the close of the year were H. S. Bernton, W. H. Jackson, Henry C. Mac Vtee, and R. H. Reichelderfer, from the active list; and F. Wilson Popenoe from the associate group.

Members elected during the year were Erik K. Reed, Frank M. Setzler, and Loren L. Wedlock.

Mr. Marcus Goldstein transferred his membership from active to associate.

The financial statement (Treasurer's report) is as follows:

Funds invested in Perpetual Building Association	\$1,034.15
21 Shares Washington Sanitary Improvement Co., par value \$10 per share	210.00
2 Shares Washington Sanitary Housing Co., par value \$100 per share	200.00
Cash in bank	201.84
Total	\$1,645.99
Bills outstanding	None

Papers presented before regular meetings of the Society were as follows:

January 19, 1932, 636th regular meeting: The Indians of the Northern Plains, by Dr. Robert H. Lowie, professor in anthropology, University of California.

February 25, 1932, 637th regular meeting: The Archaeology of the Southwest, from the Basket Makers to the Pueblos, by Mr. N. M. Judd, curator of archaeology, U. S. National Museum. The Ethnology of the Pueblo Peoples in Contrast to the Other Peoples of the Southwest, by Dr. Wm. Duncan Strong, ethnologist, Bureau of American Ethnology. By vote of the Board of Managers this meeting was changed from the regular date, February 23 to the 25th.

March 15, 1932, 638th regular meeting: Recent Excavations in France and Czechoslovakia, by Mr. J. Townsend Russell, Jr., honorary collaborator in Old World Archaeology, U. S. National Museum.

April 19, 1932, 639th regular meeting: World History as a Cultural Tug of War, by Dr. John M. Cooper, Catholic University of America. This was the retiring presidential address.

October 18, 1932, 640th regular meeting: The Jivaro Indians of Eastern Ecuador, by Mr. Matthew W. Stirling, chief, Bureau of American Ethnology.

November 15, 1932, 641st regular meeting: In the Brazilian Wilderness, an Account of the Matto Grosso Expedition to Brazil, by Mr. Vincenzo M. Petrull, University of Pennsylvania Museum.

December 20, 1932, 642d regular meeting: Bush Negroes and Choco Indians of Northwest Colombia, by Mr. W. A. Archer.

Papers presented before special meetings of the Society were as follows.

January 5, 1932: Indians of the Great Basin, by Dr. Robert H. Lowie, professor in anthropology, University of California.

February 11, 1932: The Indians of California, by Dr. A. L. Kroeber, professor in anthropology, University of California.

A special joint meeting with the American Association of Physical Anthropologists was held on March 22, 1932, in the auditorium of the U. S. National Museum. Dr. Carl von Hoffman spoke on the subject, The Wild Tribes of Formosa.

The special meetings of January 5 and February 11, and the regular meetings of January 19 and February 25 were held in the auditorium of the U. S. National Museum. The remaining regular meetings were held in Room 42-32 of the museum building.

The meetings of January 5, January 19, February 11, and February 25, together with that held on December 15, 1931, formed a special series of five lectures relating to the Indian Tribes of Western North America.

FRANK H. H. ROBERTS, JR., *Secretary*

BOOK REVIEWS

METHODS AND PRINCIPLES

Die menschliche Gesellschaft in ihren ethno-soziologischen Grundlagen. II: Werden, Wandel und Gestaltung von Familie, Verwandtschaft und Bünden im Lichte der Völkerforschung. RICHARD THURNWALD. (Berlin and Leipzig: Walter de Gruyter and Co., 1932. VIII, 360 pp., 12 pls. 1 fig. 18 M; cloth 20 M.) III: *Werden, Wandel und Gestaltung der Wirtschaft*, VII, 248 pp., 12 pls., 9 diagrams.¹

Volume II of Professor Thurnwald's encyclopaedic treatise deals with social organization in the narrower sense of the term, political activities and law being reserved for subsequent volumes. There is an amazing amount of factual information, culled from higher as well as ruder cultures and without undue stress on any one area. Here and there the details strike one as excessive, as in the circumstantial account of an initiation ceremony in Southern New Guinea (pp. 289-292), where they hardly exemplify any broad principle. However, we must gratefully acknowledge that no ethnologist will fail to enlarge his information by a perusal of this work.

By way of integration the author propounds a number of correlations and historical sequences. Woman's independence is linked with her activities as provider of sustenance and negatively correlated with man's economic preponderance (p. 34). The avunculate is conceived as well-nigh universal and as a survival in patrilineal societies (p. 15). Sororate and levirate are connected with clanlessness (p. 246), and the hypothesis that they are rooted in group marriage is quoted with at least qualified approval (p. 216). It is an axiom, we are told, that women fare better in matrilineal communities (p. 192). Secret societies arise when two populations clash and one tribe desires to exclude from its rituals the other group (p. 280).

Some of these propositions are reminiscent of what many of us reject as antiquated anthropology, but I should deprecate any hostility to Dr. Thurnwald's views on this ground. Our conceptions on social organization are assuredly in large measure provisional, and if a new survey of the data leads to a rehabilitation of old ideas, so much the worse for *us*. My quarrel with the author is simply that he fails to document some of his most significant assertions and that at times the ostensible documentation seems to bear no relation to the conclusion they are presumably designed to prove or illustrate. Thus, we read (p. 191):

Die Verwandtschaftsberechnungen nach Mutterrecht führen manchmal zu einseitigen Übertreibungen, in der Weise nämlich, dass z. B. die ganze Verwandtschaft mütterlicherseits bis zu sehr fernen Graden . . . von jeder sexuellen Verbindung ausgeschlossen wird, während gegen andere nahe Verbindungen, z. B. selbst zwischen Vater und Tochter, keinerlei Schranken bestehen.

Where, pray, are there authenticated cases of sanctioned intercourse between father and daughter?

¹ For a review of Vol. I, see AA 34: 517.

Following the association of polyandry with mother-right a series of concrete instances is cited (p. 83). Yet neither the Gilyak nor Sakai, neither the Toda nor the Tibetans or the Arabs can be fairly described as matrilineal.

I am still more puzzled by the discussion of the levirate and the sororate. On the one hand, the view is favored which derives them from group-marriage (p. 216): "In der Tat spricht viel für diese Annahme." Yet previously (p. 87) group-marriage "so far as it can be recognized at all" (*soweit man von ihr überhaupt reden kann*) is conceived as a secondary extension of fraternal and cousinly participation in the individual's sex life, and it is this equivalence of siblings that is made responsible for these two forms of preferential marriage.

Incidentally, why are levirate and sororate said to occur preponderantly among clanless tribes (pp. 215, 246)? If, as we are told, the latter occurs widely among the horticulturists of all continents (p. 215), so many of whom are organized into clans, the proposition seems to be at once invalidated. In North America the two institutions do indeed commonly appear among clanless hunters, but except for special cases (Pueblo Indians) they persist with clans. My perplexity grows with the assertion that the levirate doubtless (*zweifellos*) evolved in association with matrilineal conceptions (*in Anlehnung an mutterrechtliche Vorstellungen*), especially since it follows on the heels of the statement that it is specially favored by *patriarchal* tendencies, in the interest of perpetuating the "Familie oder Sippe" (p. 245). Perhaps I have completely missed the author's point.

I believe, however, I have grasped his conceptions as to savage woman's status and mother-right. He links superior status with economic independence (pp. 34, 193) and, though expressly warning us against a confusion of maternal descent and matriarchate (p. 12 f.), considers it an axiom that matrilineal descent enhances woman's position in every phase of tribal life (p. 192). But in what way, we ask, are women better off in matrilineal than in patrilineal Australian or Melanesian tribes? And, if superior status is economically determined, why do women enjoy such unusual prerogatives among the Pueblo Indians and in Tonga?

I cannot but find Dr. Thurnwald's position on these and related problems lacking in decisiveness. Fully aware of the objections leveled against the "classical" views, he cannot apparently reconcile himself to discarding them. Thus, he himself illustrates masculine dominance in matrilineal societies (p. 235), while clinging to the notion that maternal descent enhances feminine privilege. And while deprecating the interpretation of the avunculate as a survival of mother-right (p. 194), that is precisely how he interprets relevant usages in concrete cases (pp. 15, 212).

What I regret most of all, however, is not that Professor Thurnwald holds such and such views, but that he fails to argue them. Undoubtedly it is worth while to learn what insight into social structure a man of his extraordinary knowledge has attained. But we should be more grateful if he would more commonly reveal the inductive basis of his conclusions. For the time has undoubtedly come when definite correlations can be established in the field of social organization.

If my admiration for the author's learning is thus tempered with regret that he has not chosen to *prove* his conclusions as to the history of the family and clan, I am

wholly enthusiastic about his treatment of primitive economic life in Volume III. Fully cognizant of what such predecessors as Mauss and Malinowski have written, Dr. Thurnwald surveys a larger area of the total field. Quite as insistent as they have been on the need for viewing any one culture as a unit, he expounds the interrelations of the food-quest with all other aspects of social life, and seeks to determine the sense in which such familiar concepts of economics as labor, demand, capital, money, competition, are applicable to the conditions of illiterate communities. Crafts, trade, markets, compensation are discussed with the author's customary control of a wide range of ethnographic data. While subsequent research will doubtless lead to deeper insight, Dr. Thurnwald's pioneer effort at staking out the territory commands genuine admiration.

ROBERT H. LOWIE

Social Anthropology. PAUL RADIN. (VII, 432 pp., \$3.50. New York: McGraw-Hill Book Co., Inc., 1932.)

This book by Dr. Radin represents a highly competent performance and should prove a source of profit and even delight to students of anthropology as well as social scientists generally. The difficult task of describing material culture in such a way that it can be visualized, Dr. Radin has accomplished with consummate skill; a unique achievement, especially in view of the absence of illustrations.

The book, from the standpoint of a reviewer, naturally falls into three parts: Chapter I dealing, in short compass, with the history of ethnological theories; Chapters II-XXIV in which the primitive state, law and custom, and economic and industrial life are described in the form of carefully selected studies of individual tribes (here the author strictly adheres to his intention of avoiding "all general theoretical discussions"); and Chapters XXV-XXXV on religion, ritualism, literature and mythology. In this last section, Dr. Radin's well-known interest in religion and mythology proves too keen for a strictly matter-of-fact treatment. As a consequence, we find here ample theoretical discussion which should prove illuminating to anthropologists and others. It is indeed regrettable that the Introductions to the sections on the state, law and economics prove notable for restraint rather than content. I, for one, feel rather poignantly that the excellent descriptive sections dealing with technology will fall flat with all but strictly professional readers for the very reason that comment and interpretation have been all but eliminated. What is the psychological attitude which makes such accumulation of factual knowledge possible? How is it that the primitives here should prove such adepts at rationality whereas in other domains of culture they fail so signally in this respect? What is the scope of primitive technology, the domain of its triumphs, and what are its limits? These questions, here not even asked, cannot simply be relegated to the proscribed file of "general theoretical discussions." On account of this rather arbitrary hiatus the descriptive sections, admirable in themselves, impress one as over-detailed and at times almost pedantic. This defect could be easily overcome in a revised printing.

The brief introduction on ethnological theories is, as a whole, well articulated and adequate for such a volume; but I must register dissent in a number of particulars. I do not see how Mason, Powell, and Brinton (and with them McGee, Cushing, Holmes, who are not mentioned) can be characterized as "anti-evolutionistic and anti-historical." It would be nearer the truth to call them mildly evolutionistic as well as historical, but with inadequate documentation. From the author's statement, moreover, one might infer that "evolutionistic" and "historical" is the same thing or nearly so, whereas evolutionism was, of course, eminently unhistorical (and fell on that account), except in intent. Similarly, when the author writes,

in this sense, all the theories implying the hypothesis of multiple origin are unhistorical.

I cannot follow him. As if only those processes which can be traced to "outside" influences were historical! As if "multiple origins" implied the non-recognition of such outside influences! Setting intentions aside, the theories which invent or construct history are unhistorical, those of Graebner, Rivers, Elliot-Smith, therefore, no less than those of the evolutionists. The theories or approaches, on the other hand, which reproduce or at worst reconstruct history, are historical. The standpoint of Boas is historical even though he may choose to deal primarily with narrowly circumscribed tribes or areas.

I think it is regrettable that Dr. Radin should have chosen to use "clan" for both maternal and paternal sibs. This is, of course, a "mere matter of terminology," but we have had so much needless misunderstanding with these terms that now when the established usage (or so it seemed) was to say "clan" for maternal and "gens" for paternal descent, with the addition of Dr. Lowie's convenient neutral term "sib," it would have been wiser not to introduce still another variant use.

As is to be expected in a work of such wide scope, slips in expression and slight errors of omission and commission occur here and there. Like all human communities, the Arunta have a political organization, but it can scarcely be described as "complicated" (p. 31). I think it was an error of judgment wholly to disregard the relation of the Arunta to other tribes, especially in the matter of clan or totemic descent, thus placing what has been described as the "Arunta anomaly" out of focus. In discussing the hereditary-elective chieftainships of the Iroquois (p. 46), it should have been added that only certain maternal families served as loci of chiefs' lines of descent, there were many others which lacked this function. On page 47 there is an obvious slip; the sentence reads:

The clans belonging to one phratry called each other "brothers," while those belonging to the other called each other "cousins," and *vice versa*.

It should read:

The clans belonging to one phratry called each other "brothers," while they called those belonging to the other phratry "cousins," and *vice versa*.

On page 48 the number of Cayuga "sachems" is erroneously given as nine. The correct number—ten—will be found credited them a little further on the same page.

The statement on page 51 is calculated to give an exaggerated impression of the Iroquois League as a messenger of peace. Subdued enemies were not required thenceforth to refrain from taking any part in war,

but not to take part in war against the League nor to declare war on anyone else without the League's consent. On page 53 the account of what a matron did in connection with the election of a new chief is unduly abbreviated. The Iroquois sketch as a whole suffers from an underemphasis of the rôle of women in Iroquois society. What is meant by saying that among the Omaha

the gens and subgens were not units and had no political or governing chief (p. 111)?

They were, it is true, not political units. Here, by the way, as in one or two other places in the book, the otherwise proscribed "gens" makes its appearance, which makes matters rather worse.

The technological sections, including the descriptions of devices and processes, are, as said before, admirable. Only those who have attempted it and failed (only too commonly!), will recognize what a feat this is. There is a minor error at the head of page 166 where the author, speaking of Eskimo harpoons, says:

Its head or point is removable, so that the shaft may be recovered after throwing, which, in a region where the only wood for making shafts is drift wood, is an important consideration.

But it is not the shaft, specifically, which is thus saved to the hunter but the precious ivory point on which much labor is bestowed. The throwing-line is attached to this point, thus assuring its preservation. The shaft, after becoming separated from the point, floats on the water and may be recovered, but also may not.

This brings us to the consideration of Dr. Radin's discussions of religion and mythology, by far the meatiest part of the book. Patently enough, the author's adherence to his promise to eschew general theory lasts only while he deals with society, law, and technology, subjects somewhat remote from his major interests. For here, in his favorite domain of myth and belief, he breaks loose with ample ammunition of analysis and theory, in part at least original. I am unable quite to endorse Dr. Radin's approach to religion.

A cursory glance at the religious beliefs of peoples shows that almost any belief or custom can and has at different times become associated with religious feeling.

writes the author (p. 244); and he continues:

This can best be explained by regarding religion not as a phenomenon apart and distinct from mundane life, not as a philosophical inquiry into the nature of being or as a group of concepts and acts that springs from the relation of the individual to the outer world but, broadly speaking, as one of the most important and distinctive means of maintaining life values.

This statement bristles with commitments not by any means logically correlated. It is true, of course, that all sorts of things may become associated with religion. This is no less true of law, morals, social form, ritual—all sorts of things may become associated with these phases of culture. Each one of these phases, including religion,

may nevertheless be examined not merely as a part of culture, with very elastic limits, but also as a particular form of human self-expression, corresponding to certain sides of man's make-up. No one should any longer be tempted to regard religion as a phenomenon apart and distinct from mundane life

and certainly not

as a philosophical inquiry into the nature of being

But there is, I fear, no escape from envisaging religion

as a group of concepts and acts that springs from the relation of the individual to the outer world

Religion may well be "the" (or, at worst, "a") "most important means of maintaining life values" (compare the late Professor Giddings's definition of religion as "the faith in the unlimited possibilities of life"); but no one, I presume, would venture to derive spirit, mana, or ritual, as such, from this instrumental aspect of religion. So it functions, to be sure, but whence does it derive? An entirely different problem, it will be seen, in solving which man, as is, inevitably comes to be juxtaposed to nature, source of experience. It may, of course, be that the author does not care to grapple with the problem, but this once more is another matter.

One of the consequences of Dr. Radin's attitude is that he feels justified in all but excluding magic from his book. As he says in the Preface, he has

accepted the existence of magic and the irrational as self-evident.

To the initiated, any more self-evident than technology and common sense? To the uninitiated, not at all self-evident. If this principle of exclusion were carried out consistently, religion would have to go too. But, of course, it did not go. Instead the important and many-sided inter-relations, objective and psychological, of magic and religion, have become obscured; almost wholly so.

For reasons to me not quite apparent, the author still refuses to accept the concept of *mana* as generally understood by ethnologists. Those familiar with the author's pungent discussion of the subject in the *Folk-Lore Journal* (1914), will discover that *mana* is still taboo to Dr. Radin. But why? The author does go so far as to admit that

if by "force" we wish to designate simply the religious emotion as such, no issue need be taken with the concept (p. 267).

Well, *mana* cannot very well be the religious emotion itself but is rather the unconscious expression of the religious emotion

in the sense that it is an unconscious projection into the external world of a cause, often vague and diffuse, for the religious thrill—*mana* is that which causes the religious thrill. I do not see why this conception should not prove acceptable to Dr. Radin.

In this matter as well as in his insistence on the systematizing function of the

priest or medicine-man—a fruitful enough idea, within limits—Dr. Radin seems to be too good a Winnebago to be an unprejudiced ethnologist. A field student who is also an ethnologist must combine two rarely co-existing qualities: the ability to forget his own culture and immerse himself sympathetically (*Einfühlung*) into the primitive view-point, and the ability to forget not only his own but also his favorite tribe's standpoint, as local and subjective, in order to be prepared to view the subject at hand in a broader perspective and with critical objectivity. Dr. Radin has admirably succeeded in being a Winnebago but finds it more difficult to cease being one.

I must hasten to add to this that the concrete discussions of religion (including that of the Winnebago) are among the best in the book. In analytical skill they are second only to the pages on mythology which are not only suggestive but extraordinary. Among other gems, I consider the analysis of humor and satire in the trickster cycle (pp. 374–8) to be a real contribution to our understanding of the primitives at a point which, only too commonly, has proved a blind spot to ethnologists.

ALEXANDER GOLDENWEISER

Was bedeutet Herman Wirth für die Wissenschaft? Unter Mitwirkung von Prof. Dr. FEHRLE—Heidelberg, Privatdozent Dr. G. HEBERER—Tübingen, Prof. Dr. JUNG—Marburg, Prof. Dr. KRICKEBERG—Berlin, Prof. Dr. NECKEL—Berlin, Prof. Dr. PREUSS—Berlin, Prof. Dr. STRZYGOWSKI—Wien, herausgegeben von Prof. Dr. Alfred BÄUMLER—Dresden. (94 pp. Leipzig. Koehler & Amelang, 1932.)

Here is another contribution to the Wirth controversy. Whether this symposium pours oil on the troubled waters, as the editor appears to have intended, or adds gasoline to the already raging bonfire, is doubtful. Most of the contributors find Wirth's scientific postulates, procedures, and conclusions open, in large part, to exception. Some, at least, feel that his attempt to derive man's higher psychic culture *ex septentrione*, rather than *ex oriente*, represents a radical break with an old tradition that may in the end lead to worthwhile results, even though the results should turn out to be quite different from the ones Wirth thinks he is reaching or has reached. At any rate Wirth by his laborious attempt to found a science of "palaeo-epigraphy," has plowed in a relatively neglected, if not a virgin field. He has gathered an enormous mass of facts. Some of the contributors are inclined to think that, however hasty and reckless his conclusions may turn out to be, he has rendered a real service in assembling the facts, and that perhaps even some of his conclusions may stand. The papers by Heberer, Krickeberg, and Preuss will be of most interest to anthropologists. Those who have not leisure to wade through Wirth's two enormous tomes, *Der Aufgang der Menschheit* (1928, reviewed in A.A., 1929, 31: 506–7) and *Die heilige Urschrift der Menschheit* (about five-sixths published to date), can get a good general idea of his theory from the present short symposium.

JOHN M. COOPER

The Evolution of Human Behavior. CARL J. WARDEN. (248 pp., \$3. New York: The Macmillan Company, 1932.)

Professor Warden's book deals more with the biological evolution of the human species than with the subject matter of the title. General biological evolution, specialized human evolution, European archaeology, and the nature and distribution of living, especially European, racial stocks are the chief topics considered, while modern genetic problems and present-day evolutionary trends, along with their future significance, constitute the material of the final chapter.

The first two chapters, dealing with biological evolution and man's general position among the animals, are competently written. The relationship of environment to evolutionary change is discussed with admirable reserve and soundness. In the third chapter, however, entitled "When Anthropoid Became Human," the author definitely links himself with the school which believes that man evolved in Central Asia and dispersed thence, despite the fact that no single piece of evidence has ever been presented which would in any way tend to substantiate this ancient *ex oriente lux* theory. The ready acceptance of such an hypothesis reflects the scantiness of the bibliography and the semi-popular nature of many of the titles given.

In Chapter Three there are two definite misstatements; the first, on page 73, "This bony prominence over the brow of the ape and of Neanderthal man served as the point of attachment for the massive muscles of the head and neck in these types,

and the second, on page 84,

The average human brain weight is something like 1400 grams, being above 1000 grams in the Australian pygmies . . .

It is hardly necessary to state in a scientific journal that the browridges did not serve as attachments for neck muscles in either ape or Neanderthal man, and that there are no pygmies in Australia. In this same chapter, however, the author speculates very cautiously on the social life of pro-human and early man, and reviews the theories bearing on the origin of language.

In "Traces of Early Man," the fourth chapter, the author repeats his belief in the monophyletic, Central Asiatic, theory of human origins. One of his arguments, given on page 102, is,

the oldest civilizations of which we have any account were Asiatic, and such cultural developments might well be expected to make their first appearance somewhere near the focal point of human life

The logic behind this statement is far from clear, and furthermore the civilizations of the Indus valley, of Mesopotamia, and of Egypt were all peripheral to Central Asia, where no civilization of comparable antiquity has, to the knowledge of the reviewer, yet been discovered. If one were to develop this principle further, one would expect the oldest high civilization of the New World to have arisen near the point of entry, instead of in the Andes or in Middle America.

On page 105 a diagram is presented showing the human family tree as devised by G. Eliot Smith and modified by the author. The Negro is made to branch off early

from the stem of modern types, followed by the Mongoloid, and the three branches labeled "Caucasian" are made to diverge. Across the base of the Mongoloid and "Caucasian" branches is written, "Reduction of black pigment in skin." How can one postulate the skin color of early man? Among the apes, only the gorilla is black-skinned.

The succession of cultural periods during the lower and middle palaeolithic is reviewed in the fourth chapter, along with the physical features of the fossil men represented in them, with the assumption that Neanderthal man was the earliest inhabitant of Europe, and with continual emphasis on the Asiatic theory.

Chapter Five, "The Coming of Modern Man," carries on through the upper palaeolithic, neolithic, bronze, and iron ages, giving brief summaries of the cultural peculiarities of these periods, and discussing the racial types in them. On page 141 the author truthfully states,

The early cultural status of Central Asia is still unknown,

which makes one wonder why so much time was spent in postulating the Asiatic origin and development of man and of human culture. He considers American Indians to have been originally of a single racial stock, despite the evidence of the Pecos material and the significant distribution of anthropometric characters shown by Dixon. On page 152, in discussing Cr6-Magnon man, he says,

In certain parts of Europe today may be found peoples showing traces of the distinctive facial characteristics of this superior type of late palaeolithic man.

This notion, advanced by Ripley in 1899 and since then continued by Paudler and others, has by no means received universal acceptance.

On the next page he states that

the horse, reindeer, and other common mammals of the time . . . were captured and brought home to the cave or other dwelling place, probably roasted . . .

How does he know that they were captured and brought home before being killed? On page 154, referring to the upper palaeolithic, he says,

Very likely there was no such thing as private ownership, . . . that warfare was common enough can hardly be doubted, and it seems doubtful, however, if anything like monogamy had yet been thought of.

On page 155 we are told, as a positive fact, that

The javelin shaft, which must be left smooth, acquired magical potency merely by being passed through the hole of the perforated "baton."

The rest of the chapter is filled with similar perpetuations of outmoded theories, misstatements, and occasionally direct errors. On page 172 he states cautiously that (bronze in the New World)

may have represented an entirely independent American development,

and on page 176, at the end of the chapter, he definitely ascribes Indo-European speech to the Nordics.

In the sixth chapter, "Race and Civilisation," modern races of man are classified, and the question of racial differences in mentality is carefully studied and competently judged. In his racial classification he follows Kroeber for the world at large and Ripley for Europe in particular. Although this racial classification is antiquated and takes no account of such important groups as the Armenoid, Dinaric, and East Baltic, his discussion of the relationship of environment to race is very sound. The author criticizes very effectively the endocrine theories of race, particularly that of Sir Arthur Keith.

On page 194 the Mongoloid eye is called "almond-shaped," as opposed to other forms of eyes, and the basic Mongoloid character of the epicanthic fold is not mentioned. In the same paragraph alveolar prognathism is incorrectly defined as a "projection of the teeth."

In the question of racial superiority the author shows an intimate knowledge of his material and gives an excellent critical summary. He says:

it may be safely said that no test has yet been devised for measuring complex behavioral capacities which can be regarded as wholly fair to all racial groups. . . . Primitive and civilized peoples average about the same in sensory acuity in the field of vision, audition, smell, and touch . . . there is no such thing as equal educational or social opportunity for the black man in America. It would be manifestly out of the question to secure comparable groups, in this sense, from Patagonia, Melanesia, and western Europe. . . . The prejudice in favor of racial equality in intelligence is quite as obnoxious to the scientific mind as the prejudice against such equality.

In the last chapter, "Present Trends in Evolution," he presents an able discussion of future tendencies.

The evolutionary possibilities of man, as of any other species, depend primarily upon two factors: germinal plasticity and environmental pressure. The stimulus to further evolution arises, as a rule, from the presence of new external conditions, whereas the limits of change are set by the germinal factor.

On page 216 he states, in regard to prehistoric man,

Certain of the practices of these early peoples, such as the exposure or voluntary slaying of the weaker infants, were also eugenic in their effects.

One is tempted to ask how he knows that these practices were indulged in during the periods in question. On page 217 he states,

Stature and general bodily proportions have probably not changed much, on the average, nor has there been an increase in brain size since the beginning of Neolithic times.

This statement, while correct in regard to brain size, is wrong respecting stature. The stature of modern European man has increased greatly, especially within the last hundred years, as a study of the work of Lundborg and Linders in Sweden, Bryn and Schreiner in Norway, Bowles in this country, and of numerous others, will readily demonstrate. Modern European man is certainly taller than any neolithic type.

In the subject of "Eugenic Control" the book rises perhaps to its highest point, with a clear and logical discussion of the general problem and a criticism of the measures which have been advocated or tried. Under "Evolution and Progress" he reviews present evolutionary trends, such as the modification of the teeth and jaws, and on the whole expresses no concern for the future. He concludes the book by saying:

if the direction of evolution cannot be predicted then surely the question of human welfare and human progress must be left to the future.

In general, one may say of the author's attitude that he is essentially critical and essentially sound. If he had confined himself to the subjects with which he is obviously well acquainted, namely psychology and genetics, the book would merit no adverse criticism, in its present form its value is weakened by the inclusion of much erroneous, controversial, and antiquated information derived from the fields of physical anthropology and of European archaeology. It is a pity that the author was not advised before publication to limit the scope of his subject and thus to assure the unqualified merit of his work.

CARLETON S. COON

LINGUISTICS

Southern Paiute, a Shoshonean Language. Texts of the Kaibab Paiutes and Uintah Utes. Southern Paiute Dictionary. EDWARD SAPIR. (Proceedings of the American Academy of Arts and Sciences, vol. 65, nos. 1, 2, and 3. 730 pp. 1930-1931.)

For a long time we have been expecting with impatience the publication of the extensive Plateau Shoshonean material, obtained from trustworthy informants by Professor Sapir, partly with the assistance of Dr. Mason, some twenty years ago. Now most of it is lying before us in a comprehensive volume, every page of which bears witness to the loving care devoted by the author to his difficult task.

Indeed [says Professor Sapir in his introduction to the Kaibab Paiute and Uintah Ute texts (p. 299)] in all my linguistic experience, I doubt if phonetic perception has ever been so severely taxed as in recording Shoshonean dialects of the Ute-Chemehuevi group.

The difficulty of recording texts in these dialects was due, in part, to the wide range of variability of the phonemes belonging to them, in part also to the very subtle differentiating distinctions peculiar to their phonological pattern. No doubt, it must have been pretty hard to find out the really differentiating sounds of Southern Paiute, and, when they once had been recognized, to mark off their mutual domains. To have done this is a performance which required the sharp ear and the unflagging attention of such an experienced phonetician as Professor Sapir, to whom we owe already so much reliable work of the same kind in other American Indian languages. It will be scarcely necessary to remind Americanists of what he has done, for example, in such a trying case as Yaní.

The present volume contains a very elaborate grammar of Southern Paiute (carefully to be distinguished from the distantly related Northern Paiute or Pavi-

otso, that belongs to another branch of Plateau Shoshonean); a fine collection of Southern Paiute and Ute texts, part of them with interlinear, all of them with normalized translations, and accompanied by useful philological and ethnographical notes; and a dictionary of Southern Paiute, based on the texts and on grammatical and lexical notes secured at the same time as the texts. In the preface to the Southern Paiute grammar the author expresses the hope to publish a briefer sketch of the Ute language at some future date (p. 3). Other papers we may expect from Professor Sapir's hand will be dedicated to a series of over two hundred Southern Paiute songs, chiefly ceremonial, recorded in text and on the phonograph, and to a considerable body of still unpublished ethnological data concerning the Southern Paiute themselves (p. 300). We hope these papers will be forthcoming as soon as possible.

In the following notes I shall comment upon a few passages of the Southern Paiute grammar, stressing things of general linguistic interest.

Page 73 *sqq.*: It is worth while to observe how often the very same types of compound nouns will recur in Old World and New World linguistic stocks. So Southern Paiute abounds in tatpuruṣa and bahuvrīhi compounds. Among the latter there are some whose first member is an adjective-verb stem (p. 77 *sq.*), a compositional type which reminds us of the adjective and noun bahuvrīhi, so very common in Sanskrit and other, ancient and modern, Indo-European, and non-Indo-European, languages. I cannot call the reader's attention to all parallels which occur to me while reading Professor Sapir's paragraph on compound nouns. Still I want to mention the exact parallelism between Southern Paiute and Basque in the place occupied by the determinant in determinative compounds. Whereas the determining noun in both fundamentally different languages, just the same as with us, precedes the determined one, a determining adjective-stem, in Basque as well as in Southern Paiute, follows the noun which it determines (*cf.* the note to P. Morice, *The Carrier Language I*, p. 47 in my review of the work, *Anthropos* XXII, p. 973 *sqq.*, especially p. 975).

Page 79 *sqq.*: The compound verbs of Southern Paiute belong to widespread American Indian types. The noun and verb combinations which are treated on page 84 *sqq.* are essentially compositional, so that the term "noun-incorporation," as I understand it now, would perhaps better be avoided here. I should like to confine the much-discussed term to such cases where the combination into one word of noun-stem and verbum finitum has a strictly and undoubtedly morphological (non-compositional) character. (*cf.*, however, Sapir's illuminating paper on *The Problem of Noun Incorporation in American Languages* (*American Anthropologist* XVIII, p. 250 *sqq.*, especially pp. 261, 267). Perhaps somebody will say: There is not much of a problem here, it is only a terminological question. But then he would forget that there *is* a fundamental difference between compositional and morphological processes, though it may happen to be not so very easy to draw a sharp line between them.

Pages 108–110 (*cf.* p. 188 and p. 211 *sq.*). Here, as in many other languages, we observe the development of the reciprocal from the reflexive. This evolution

is the more remarkable, the better we realize the deep gulf dividing the two concepts. While the reflexive expresses the identity of the "agent(s)" and the "patient(s)" of an action, the reciprocal expresses the complicated mutual relation of two or more "agents," each of which has a "patient" or "patients" different from himself, the totality of all "agents" being identical with the totality of all "patients." Just the same as there may exist, and often exists, a reflexive possessive by the side of the reflexive pronoun, so we may find a reciprocal possessive by the side of the reciprocal pronoun. Anyhow, there must be a means of bridging over the deep gulf I spoke about, for otherwise the frequent development from reflexive to reciprocal could not possibly take place.

Page 110. The terms involving mutual relationship are of the same peculiar type as those of Carrier, a radically different (Athapaskan) language (see P. Morice, *The Carrier Language I*, p. 97 *sq.* and *cf.* *Anthropos* XXVII, p. 975).

Pages 118 *sq.*, 129, 131, 161, 176 *sq.*, 199 *sqq.*, 208, 213 *sqq.*, 249, 251, 257, 265. Why did not the author devote a special paragraph to the distinction of "animate" and "inanimate"? That Southern Paiute has a strong tendency towards such a grammatical noun classification is apparent enough, and it would have been convenient to have all the facts pertaining thereto grouped together. Still, I think, it would have been preferable to speak of "names of living beings" and "names of lifeless things" instead of using the terms "animate nouns" and "inanimate nouns," which might suggest the idea of a thorough-going noun-classification of the Algonquian type.

Pages 118-120. These pages are particularly interesting because they discuss the well-known Uto-Aztekan nominal suffix that appears in Nahuatl as *-tl* (*-lli*). That sometimes it has been attached to recent loan-words ("mule," "soldier"), proves it to have been a productive speech-element until a very short time ago.

Page 127 *sqq.*: The participles treated sub (5) might be better called "inactive" than "passive." Their "voice"-value seems to be the same, or nearly the same, as that of the Sanskrit participles in *-ta-* and *-na-*.

Page 143: Professor Sapir defines "voice" as "direction of action with reference to subject, object, or indirect object." I think, this definition does not hit the mark. "Voice" rather indicates the attitude of the speaker to the logical subject and the logical object (including the "indirect object"). When using an active form, the speaker places himself on the side of the logical subject, is in a way in sympathy with the logical subject. When using a passive form, the speaker places himself on the standpoint of the logical object, is in a sort of sympathy with the logical object. Whether we say "Jack thrashed Bill" or "Bill was thrashed by Jack," the direction of the action was from Jack to Bill, all the same. When we say "Bill was thrashed," without mentioning the person by whom it was done, the direction was from an unspecified point towards Bill. So "voice" has nothing whatever to do with the direction of action. As to the "indirect object" as logical object in American Indian languages, see my paper on the absence of the dative-concept in Blackfoot (*Symb. gramm. in honorem I. Rozwadowski I*, p. 71 *sqq.*).

Page 159: On the third line of §31 is to be read "subject or object" instead of

"subject or subject." This is, it seems, the most important of the very few inaccuracies that have been overlooked.

Page 164 (*cf.* p. 131). I cannot approve of Professor Sapir's using the term "perfective" for the complicated aspect of "completion in the past and the state resulting therefrom," which is expressed by the Greek perfect. In Indo-European linguistics to the term "perfective" a very different meaning is attached, as nobody knows better than Professor Sapir himself. Why not try to use linguistic terms always and everywhere in the same way?

Page 212 *sq.*: Highly instructive are the author's remarks on the two-moraed characteristic type of stem in Uto-Aztekan

Page 217 *sq.*: The three types of postpositions remind us of Basque, which (it need not be repeated) is genetically and structurally very different from Uto-Aztekan

Page 232: A peculiar feature is the use of the objective as subject in subordinate clauses, a phenomenon I do not remember to have met with in any other language.

I have given only a very few of the numerous observations suggested to me by attentive reading of Professor Sapir's excellent grammar. May his analysis of Southern Paiute be studied by all philologists who are interested in the phonetical, morphological, and syntactical structure of "archaic" languages.

C. C. UHLENBECK

Language and Languages: an Introduction to Linguistics. WILHELM L. GRAFF (vii-xlvi, 3-487 pp., \$4. New York: D. Appleton and Company, 1932)

Mr. Graff sets himself the colossal task of reviewing practically everything which goes to make up language in general. He is not satisfied with his quite exhaustive treatment and so broaches the question of symbolization. Still not satisfied, he concludes his work with two descriptive chapters concerned with the Indo-European family and the non-Indo-European languages. These last two chapters might have been profitably omitted. Information of the former is very generally available, the latter is based too exclusively on secondary sources.¹ Half of the remaining chapters are devoted pretty much to meaning, which gives an interesting emphasis to a subject rather slighted by most linguists.

The data in regard to non-Indo-European languages are here and there due to first-hand knowledge (pp. viii-ix).

Judging from a footnote (34 on p. 138), the author has recorded Iroquois spoken on the Chaughnawaga Reservation in Canada; this is important for the general treatment of his subject, especially since he combines his "first-hand knowledge" with a general interest in non-Indo-European languages. It allows the author (as it has already allowed F. N. Finck, L. Bloomfield, E. Sapir, and others) to present a

¹ Most students of American Indian languages will feel that the author has been misinformed about the supposedly frequent American clicks. The Maidu implosives are probably the closest approach to a click to be found in America.

wider and more varied linguistic landscape. This extra breadth will probably prove to be the outstanding feature in the study of general language when the history of linguistic science in the twentieth century is written.²

Unfortunately, some of Mr Graff's book is exclusively oriented from certain written languages. Thus, in a long chapter devoted mainly to the concept of the word, the author tacitly assumes that there is general agreement as to a word boundary (as indeed there is, once a language is written), that the word is a phonetic entity in all languages is not questioned.

However, whether dealing with a narrow linguistic landscape or a wide one, Mr Graff always shows a fine feeling for those classifying patterns in language whose unity is all too frequently violated by an overly analytic approach. The following quotation is typical of the author's general synthetic attitude.

We may, of course, if we so wish, neglect the phonetic part of linguistic processes and compare their semantic part with a certain non-semanticological concept. And that is what linguists usually do when they describe the various linguistic categories. But in so doing they often overlook that this separation is purely artificial, that if carried out consistently it would land us right in the midst of philosophy instead of linguistics, that the structural character of the semantic part of a linguistic experience, even if we isolate it mentally, owes neither its existence nor its relationships exclusively to the world of non-semanticological concepts (pp. 199-200).

Mr Graff compares his book to the work of a popularizing chemist who invites an interested public to accept the current scientific terminology rather than risk ambiguity in adopting an easier non-scientific terminology. The comparison is apt so far as the retention of scientific terminology is concerned. *Language and Languages* differs advantageously from other introductions to the same subject in that the book begins with a glossary which defines well over two hundred linguistic terms. The definitions are brief,-- in some cases too brief. The meaning attributed to "enclisis" is good when the stress criterion works, but says nothing of the formal sense in which the term is sometimes used. The glossary includes some very bookish terms, as engram, psittacism, and so on, but passes by some more common terms, as contraction, and relational element, for example. "Dvandva compound" is found worth introducing into the glossary, but the bahuvrīhi compound is merely described (p. 138), without its Sanskrit label. Probably no two people would ever be happy with the same choice of terms and definitions. Yet this should not detract from the fact that the glossary in question is a most useful appendage to an introductory book, as is the final bibliography, which covers thirty-four pages.

The book as a whole is a double-edged sword. Both in its glossary and in its body it introduces a maximum number of terms from the linguistic academy, and each term is explained when it first appears. This is supposed to be good for beginners. Secondly, and more important, a vast array of data bearing on general language are presented from the viewpoint of one observer who is especially sympathetic to

² Holger Pedersen, in his *Linguistic Science in the Nineteenth Century*, devotes only 40 out of 339 pages to the study of non-Indo-European families.

meaning in language. The result is a complete and eclectic picture, which is very pleasing.

CH. F. VOEGELIN

Grammaire et Dictionnaire de la Langue des Iles Marquises. Mgr R. I. DORDILLON. (87 fr 50 Paris: Institut d'Ethnologie, 1931)

This is a revised and enlarged edition of the same author's work published at Paris in 1904 under the same title, but omitting the French-Marquesan dictionary. The first two sections dealing with grammar and syntax remain almost unchanged but are marred by an effort to explain the morphology and structure of Polynesian in grammatical terms and formal categories which are alien to it. The Marquesan-French dictionary which follows is the fruit of years of painstaking compilation carried to completion, after the author's death, by other members of the Catholic Mission. The present edition contains a larger and better arranged vocabulary, and is greatly improved by the inclusion of a wealth of new examples, with adequate translations, of the different uses of the words defined, though it is to be regretted that the same type has been employed for both native and French. The use of the acute accent to denote the incidence of the hamzah has been retained and is a valuable aid to the comparative linguist. Unfortunately, the work suffers from an unusual number of typographical errors, most of which, however, can be detected by comparison with the earlier edition, and the vital significance of quantity --a basic phenomenon of Polynesian--is insufficiently stressed. Nevertheless, the work is a valuable addition to our knowledge of Polynesian linguistics.

J. FRANK STIMSON

AMERICA

People of the Serpent. EDWARD H. THOMPSON. (8 vo., 301 pp., 19 pl. \$3.50. Cambridge, Houghton Mifflin Company, 1932.)

Edward H. Thompson, thanks to an essay written by him in his youth in favor of the Atlantis theory, was sent to Yucatan a little more than forty years ago. Officially he was to be United States consul, unofficially he was to carry on work in Maya archaeology.

In this book the author recounts some of the more exciting moments of a vivid life. These include numerous encounters with jaguars, rattlesnakes, and wild Indians, as well as accounts of the high lights of archaeological discoveries, such as the removal of the sacrificial treasure from the bottom of the sacred cenote.

Those who like their romance thickly spread will not be disappointed in this book. Typical is the following passage:

Darkness, as black as the hate in the heart of Canek, lay around the silent ranks of the warriors. The lightning flashes, as sharp and hot as the anger that flamed in Canek's breast, played over the glinting points of crystal on the moving forest of lances as they neared the enemy's city.

Similarly Diego de Landa's famous book on Yucatan is described as a "musty old volume," although at the date in question it had only been published some fifteen years. In describing the sacrifices at the cenote, details are given as being taken from Landa which are nowhere to be found in Landa's account.

One chapter is devoted to a peculiar reconstruction of Maya history. The ancestors of the Maya, we are told, were tall, fair-skinned people who landed near Tampico from some unknown starting-point. They were called the People of the Serpent. After a lengthy abode in the region of the Panuco, one part traveled to the vicinity of Durango, where they became known as the Toltec. The other part wandered southwards into the Maya area, eventually reaching Chichen Itza. At one time they were known as the Ulmec or "Rubber People."

The descriptions of life as it was lived in Yucatan some forty years ago form the most interesting part of the book. Thompson lived there when conditions were very different from what they are today. Many of the old customs have disappeared in the last twenty years, and Yucatan is now, in many parts, so influenced by movies, automobiles and other imported cultural features that it has lost much of its original attraction. One wishes that Thompson had given a very much greater proportion of his book to this subject.

J. ERIC THOMPSON

Etnologické materiále z jihozápadu U. S. A. (Antropo-geografické hodnocení studijní cesty k SW-Indiánům na podkladě přírodovědeckém) FRANTIŠEK POSPÍŠIL. 256 pp. [English Summary: pp. 239-247.] Brno, 1932.

The author of this treatise, Professor F. Pospíšil, is curator of the Ethnographic Department of the Moravian Museum in Brno, the collections of which he described in a guide "Die volkskundliche Abteilung des Mährischen Landesmuseums in Brunn," (Brunn, 1928). He is an enthusiastic choreographer and has repeatedly lectured on European folk-dances, for example, at the Americanists' Congress in Hamburg. In 1930-'31 he visited the United States, where he spoke before numerous bodies, such as the American Ethnological Society in New York, at Northwestern University, and at the University of California. This lecturing tour was combined with a visit to the Southwestern Indians, and the present work is the first instalment of a series of ethnographic studies. Professor Pospíšil is an excellent photographer and the numerous illustrations, both half-tones and line-drawings, are of high quality. Indeed, the make up altogether is most attractive. There is a very full bibliography, which ought to be of great utility to Czech ethnographers.

The author indicates that subsequent issues in the series will appear at irregular intervals, partly in Czech, partly in German, French, and English.

ROBERT H. LOWIE

Primitive Peoples of Matto Grosso, Brazil. V. M. PETRUCCIO (The Museum Journal, vol. XXIII, number 2, pp. 91-173, 24 pls., 1 map. Philadelphia: Published by the University Museum, 1932.)

This publication is a short account of archaeological and ethnological field work at the headwaters of the Paraguay and Xingu rivers in Matto Grosso. The work was done under the auspices of the University Museum of Philadelphia, cooperating during 1931 with the Matto Grosso Expedition and the Academy of Natural Science. This territory has been only known up to now. The chief purpose of the expedition was to trace out archaeological sites, which it succeeded in doing. Several sites were discovered and two of them dug out in the little village of Descavaldos, which is built on an extensive aboriginal cemetery. These discoveries are an important completion of the archaeological discoveries made in recent time in the territory of the lower Amazonas.

From that place the expedition advanced northeast into the territory between Rio Ferro and Rio Tanguro, which unite to form the Rio Xingu. Here are living some tribes of Indians, whose ethnography and language are nearly entirely unknown and with whom the expedition did not come into any closer contact. It is true that brief statements about them all are made in that publication, but they refer only to external parts of their culture.

The expedition had the great advantage of traveling through that vast territory in an amphibian airplane. Such an apparatus facilitates travelling exceedingly and has contributed to the fine results of the expedition. But it is indispensable to explore this territory thoroughly as soon as possible, and for that purpose it is necessary that ethnologists stay there many months, for imperfect observations are of no use to the comparative ethnology of South America.

MARTIN GUSINDE

The Eskimos: Their Environment and Folkways. EDWARD MOLLAT WEYER, JR. (483 pp. \$5. New Haven: The Yale University Press, 1932.)

Dr. Weyer's book is a welcome résumé of our present knowledge of the Eskimo. The literature on them has increased to such an enormous extent during the last generation, owing to the epoch-making work of Thalbitzer, Rasmussen, and Birket Smith, that only a specialist could hope to keep track of it. Dr. Weyer not only presents us with an accurate and critically evaluated description of these more recent results, but he brings them into relation with the work of their predecessors.

The book is divided into two distinct parts, that which deals with the physical environment and that which deals with their folkways. Like so many scholars who have concerned themselves with the Eskimo, he has attempted to bring their culture into direct relation with their physical environment. Except that his attempt is much more systematic than that of his predecessors, I cannot see that he has been any more successful. It must, however, be remembered that that part of the book which bears on this question is but an expanded doctor's thesis written manifestly under the sociological inspiration of Sumner and Keller, and that an ethnologist might be expected to take exception to such an approach. Still even here Dr. Weyer displays admirable caution and discrimination, and only occasionally does he press his point too far as, for instance, when he finds it necessary to stress the

fact that if the Eskimo eat their food raw, this is due to circumstances and not to choice, scarcity of fuel being largely responsible (p. 55), or his surprise that they never developed intoxicating beverages when they were accustomed to storing berries and "might be expected to have hit upon the discovery naturally" (p. 57). In his desire to show a one-to-one adaptation of culture to environment, which is of course the outstanding failing of all studies of this type, he is somewhat perturbed by those instances of complete lack of adjustment so frequent among the Eskimo and finds it necessary to develop what the reviewer feels are rather unprofitable sociological explanations. He argues, for example, that the sex mores of the Eskimo, which are conducive to maximum reproduction, are to be explained as a necessary adjustment

among a people whose density of population hovers so near the maximum for survival (pp. 144-145).

These are, however, minor defects and even though they occur frequently, must be allowed for in view of the other merits of the work.

Particularly valuable and interesting are the chapters on Intertribal Relations and Property. Fully half the book is devoted to religion, and it is in many ways, one of the best treatments we have. All the available data have been carefully sifted and coordinated and the author distinguishes between the facts and his interpretations of them. Many of the interpretations ethnologists would not accept, and it is somewhat unfortunate that Dr. Weyer has devoted so much space to a type of explanation smacking, at times, of the old-fashioned evolutionist. On page 419 he tells us that the religion of the Eskimo exemplifies

the transition from ghosts that are identified with earthly counterparts to spirits dissociated from any human antecedents.

He is, however, much too honest and clear-headed to allow such points of view to obtrude themselves when he is actually describing the facts

There are two points that are not quite clear to the reviewer. First, why did the author omit mythology and art, and what does he mean when on page 233 he insists that he is going to consider not the present hybrid form of the religion but the primitive, self-taught religion as it existed before the dawn of civilization, i.e., presumably before contact with our civilization? Where does he get the latter information? He does not tell us. Naturally one assumes that he is going to make his own reconstruction of it. But he does nothing of the kind. He describes it in the words of the best contemporary authorities, and we breathe a deep sigh of relief.

PAUL RADIN

The Patwin and their Neighbors. A. L. KROEBER. (University of California Publications in Archaeology and Ethnology, Vol. 29, No. 4. \$1 60. Berkeley: 1932.)

The wider interest and importance of this monograph on the tribes of the Lower Sacramento valley and neighbouring hill country lies in the presentation of a fuller analysis (pp. 312-348 and 392-423) of the secret societies of north-central California,

to which Kroeber had earlier given the name *Kuksu* cult and whose features, as then known, he summarized in the *Handbook of the Indians of California* (chapter 26). It consists of a series of rituals performed by more or less secret initiating and spirit-impersonating societies, and Kroeber insists that the cults cannot be defined in terms of their paraphernalia or religious elements such as dance houses, costumes, the hollow foot-drum, etc., which are distributed very widely, but only on the basis of the organization of society initiation. The societies among different groups are far from identical in the appearance, relative importance, and names of spirits. The entire system seems to have been confined to an area only 150 miles in diameter and is most elaborate among the central Patwin. This is not to imply that all the development occurred among the Patwin; indeed there is a clear distinction between a western and eastern area separated by the crest line of the coast range. Ancestor Ghost societies dominate in the west and are lacking in the east, while the "hesi" (spirit-impersonating dancing ceremonials) absent in the west are of first importance in the east. The *Kuksu* itself, focused on the impersonation of a spirit, is generally more restricted in membership and characteristically, although not uniquely, involves ritual death and resurrection of initiates. It should perhaps be regarded as a degree or grade of the major society ("ghost" or "hesi") in each area and is the most widely distributed. The Patwin and a neighbouring group of Pomo stand alone in practising both the western and the eastern cults.

No other ritual spirit-impersonating secret societies are found for many hundreds of miles in any direction; the societies of the Northwest coast die out on the northern borders of California, and the Puebloan lie more than six hundred miles away across the Great Basin and the Colorado deserts. The parallels in specific content between the *Kuksu* cult and the secret societies of the Southwest are few.

Ninety-five, perhaps ninety-nine percent of its specific content is not Pueblo. This content is in part taken from general central Californian culture, where much of it exists today without being organized into a society system; in part it was evolved on the spot as the *Kuksu* concept grew (p. 410).

Nevertheless Kroeber shows the strong grounds for believing that the central Californians

seized upon suggestions [and general concepts] which reached them, indirectly if not directly from the Southwest and gradually developed them in their own fashion, that is with content mainly familiar to themselves and compatible with the remainder of their culture.

He adduces the remarkable prosperity and dense population of these north-central Californian food-gatherers as the probable explanation of their receptivity to and individual elaboration of the imported concepts.

The resulting *Kuksu* cult as we knew it is then essentially a luxury product; and the reason the other central Californian groups did not take up the cult scheme is that they were not in an economic or demographic position to luxuriate culturally.

The great methodological importance of Kroeber's analysis lies in the deduction of an early diffusion where the superficial evidence of continuity as shown by a mere

tabulation of isolated common elements of material paraphernalia or procedure are scanty and unconvincing. Such elements as the bull-roarer, pole ceremony, ancestor spirits, curing by spirit impersonation, do link central California and the Southwest, but are more widely distributed than the Kuksu cult itself in California. By a comprehensive study of ritual concepts in north-central California itself and western North America as a whole he indicates the probability of the diffusion of the underlying ideas via southern California where subsequent movements of population and secondary divergence have obliterated or blurred the continuity of distribution and concludes that:

The general outline of Kuksu developments then may be tentatively reconstructed to have been this. At an early date, long before Pueblo cults had taken their present specific form, certain ritual practices were diffused from an undetermined center which may have lain in Mexico, but which, if in the United States, is most likely to have been situated among the Pueblos. These rituals probably included initiations of boys, or supernatural impersonations, or both, altars of groundpainting type; fetish bundles, possibly the bullroarer. The impersonations are likely to have been of two types—ghosts of the tribal dead or a race of spirits more or less identified with them, and spirits of a superior or special character, designable as deities and associated with the origin and maintenance of the world. There may also have been the concept that the impersonations, especially of the gods, served to cure illness. These practices and ideas were diffused westward, and then south and north in the coast region, as far as north-central California, where they were checked by encountering a culture of fairly distinct origins and trends, that of the Northwest Coast. In each area reached, the transmissions became merged with culture elements already established, and were still further modified by the development of provincial traits consonant with the culture of the area. Thus the cult houses, musical instruments, performers' apparel, largely became specific, not generic or uniform, in the several regions where the introductions flourished. These regions were those in which economic prosperity induced relatively concentrated living and inclinations toward organization. The organizing impulses resulted in the formation of societies, perhaps at times *de novo*. These were essentially luxury growths. In other regions subsistence was less favorable, or at least tended to more scattered or seasonal residence, organization was blocked instead of encouraged, societies did not form, and even the original impulse toward initiations or impersonations often died out again (pp. 417-8).

C. D. FORDE

Culture Conflict in Texas, 1821-1835. SAMUEL HARMAN LOWRIE (189 pp. \$3. New York: Columbia University Press, 1932.)

Historians have given much attention to the colonization of Texas by Anglo-Americans and the subsequent war of independence from Mexico. Dr. Lowrie does not attempt to contribute a more exhaustive collection of facts or a better narrative of historical events. Rather he seeks to apply to his subject "the principles of culture contact and conflict as given in present day anthropological writings." The break between Texas and Mexico is attributed to

misunderstandings which arose as a consequence of difference in folkways and mores, in the culture patterns of the two groups.

The actual conflict was more acute in the mores of government and of political rights than in economic and religious patterns. Thus, for example, the Texans held public conventions of protest, in the fashion which, as frontier democrats, they were accustomed to regard as their right. To the Mexicans, the customary channel of protest was the petition through the ayuntamiento, always preserving the forms and tone of respectful obedience to superiors in a centralized hierarchical government: public assembly, therefore, was properly subject to limitation, and the actions of the Texans were nothing less than lawless and treasonable. The subject matter of the dispute and the actual viewpoints of the parties with respect thereto tended to become obscured by the clash of cultural background until the peaceful adjustment of grievances became impossible.

This approach to a familiar subject is distinctly fruitful, a welcome example of the mutual enrichment of the social sciences, not by "cooperative research" but by awareness of the individual investigator of the methods and problems of cognate fields. It is a complement to, rather than a substitute for, customary historical methods.

PAUL S. TAYLOR

Bulletin of the Texas Archeological and Paleontological Society, Vol. 3, September 1931. (96 pp., 17 plates, 10 text figures. \$3. Published by the Society at Abilene.)

This publication contains nine archaeological papers, one on paleontology, a series of notes on the field work of its members, the yearly report of the secretary-treasurer and that of the recording secretary of the society. Most of the field investigations upon which the articles were based are included in Dr. Guthe's "Reports Archaeological Field Work in North America During 1931." (AA 34: 503 ff., 1932) The Bulletin does not specifically state that the papers included in it were first presented before the society or some of its affiliated regional organizations. Most of them, however, give the impression that they were written to be read before meetings and that they were extensively illustrated by means of charts and lantern slides, the lack of which lessens the value of the papers in their printed form.

The reports deal mainly with the central and west Texas region, although one discusses the pottery of the coastal district, and two of them overlap, legitimately, into New Mexico. The subjects range from types of sites to flint sources, trails, monuments, mounds, mortar holes, pictographs, pottery, implements, excavations of ruins, variations in burial practices, and differences in skeletal remains.

Two of the papers, one by Henry T. Fletcher and the other by Victor J. Smith, are primarily concerned with the so-called Big Bend region, where remains closely resembling the Basket Makers of the Pueblo area have been found. The problem here is not a simple one, and the conclusions must be carefully drawn. The caves in the district may yield objects left by groups ancestral to some of the Plains tribes, and although they suggest a variation of the ancient Basket Maker pattern, still bear no relation to it. The area is one of importance from an archeological standpoint, and the results of future investigations will be awaited with interest.

A discussion of the archaeology of the north Panhandle of Texas implies possible affiliations with the Pueblo area to the west. The feature of particular interest is the apparently large number of Post-Basket Maker sites. The writer, Floyd V. Studer, does not state whether his designation denotes a relationship between these remains and those bearing a similar name (called Basket Maker III in most recent reports) in the Pueblo region. From the nature of the Panhandle remains, as described in the paper, it would seem that the term applies chiefly in a local sense. The objects described differ from those found in Basket Maker III (Post-Basket Maker) sites in Colorado, New Mexico, and Arizona. The failure to include some potsherds in the illustrations makes it difficult to compare the Texas ceramic fragments with those from the Pueblo area. This is unfortunate because the pottery type is one of the important criteria in the determination of Post-Basket Maker or Basket Maker III.

The papers in general cover an area which is too little known at the present time and for that reason are an addition to the literature on archeology. The Bulletin shows that there is a definite interest in archaeological and paleontological research in Texas and that the people of the state are actively engaged in an effort to solve some of the many problems which arise in such studies.

FRANK H. H. ROBERTS, JR.

Bulletin of the Texas Archeological and Paleontological Society, volume 4, September, 1932. (84 pages, 15 plates. Published by the Society at Abilene.)

These nine archaeological papers furnish data from various parts of Texas and eastern New Mexico, some of which are significant.

E. B. Howard in *Caves along the Slopes of the Guadalupe Mountains* tells particularly of one cave in southeastern New Mexico which yielded extinct animal bones,

some . . . in hearths, some of them actually burned, and in the case of certain bison and musk-ox bones found in actual association with a spear point resembling the Folsom type. This particular hearth was four feet below a cremated Basket Maker burial, the bones of which were placed in a very finely made twined-woven bag, wrapped about with antelope skin (p. 19).

The superposition of the Basket Maker burial adds materially to the already important association of extinct animal bones and "Folsom point." The author is to be commended for presenting his facts in a thoroughly scientific manner. Archaeologists can look forward to the detailed report of this particular excavation.

J. E. Pearce in *The Present Status of Texas Archeology* presents in brief the results of many seasons' field work in the stone mounds of central Texas. He reports

three types of early culture represented in stratified levels of the larger mounds, the lowest a crude pure hunter type, the middle a higher hunter type . . . but without the bow and with little if any horticulture, and the upper representing a much finer culture with the bow and arrow and considerable horticulture (p. 49).

A detailed report on these stratified sites would add greatly to our present knowledge of Texas archeology. From the Red River region in northeastern Texas, the University of Texas has recovered pottery and other artifacts which the author identifies with the "historical Caddoes" although he reports no European material associated with the specimens from the sites. A certain amount of work along the Gulf coast is also reported.

V. J. Smith in *The Relation of the Southwestern Basket Maker to the Dry Shelter Culture of the Big Bend* compares, in rough tabular form, the various artifacts which show similarities and dissimilarities. Unfortunately the plate illustrating a coiled basket fragment typical of the Big Bend is not sufficiently clear to show the detailed variations between it and the technique of the true Basket Makers in the Southwest. If a more detailed analysis of arbitrarily chosen characteristics in the two regions is made after further investigation, it will aid in disclosing such relationship as does exist between the two regions and offer a possible chronology for the culture in the Big Bend.

Other articles in the volume are: *Painted Pebbles of the Texas Big Bend*, by G. C. Martin and S. Woolford, *Excavations at Tecolote during the Summer of 1931, in the Panhandle of Texas*, by W. C. Holden, *A Small Ruin in New Mexico*, by E. E. Alves; *Artifacts of the Rio Grande Delta Region, around Brownsville, Texas*, well illustrated, by A. E. Anderson; *Archeological Research in Central West Texas*, by C. N. Ray; and *The Aztec Influence on the Primitive Culture of the Southwest*, by M. L. Crimmins.

The need for more careful editing is evident throughout the volume.

F. M. SETZLER

Voodooos and Obeahs: Phases of West India Witchcraft. JOSEPH J. WILLIAMS. S. J. Ph.D. (Ethnol), Litt.D. (257 pp., \$3 New York: Lincoln MacVeagh, 1932.)

Having owned at different times, some three hundred volumes of research in Africa, the reviewer turned first to Dr. Williams' Bibliography, and found only eleven of them named. But Dr. Williams has a list of 83; which means 72 books dealing with an area that has no primary interest for the student of the so-called Semitic anthropologica. This is twofold evidence of the critical and scholarly character of Dr. Williams' invaluable work. First, discarding hasty assertions that "voodooism or fetishism can be found everywhere in Africa," he has recognized that any direct evidence of African origin of West Indian Voodooos and Obeahs can be found only in a very restricted African area. Second, the older writers upon this area are largely discredited, by the limitations of their knowledge and their unscientific method, confusing unrelated phenomena. Dr. Williams asks us to credit only modern scientific anthropological observers. How far we have progressed in a generation may be judged from the fact that such writers as Mary H. Kingsley, R. E. Dennett, R. H. Nassau, Spencer St. John, J. Leighton Wilson, A. B. Ellis, J. A. Skertchley, are no longer held authoritative, and that "Fetishism" no longer sums up African religious thought and institutions.

In this first really scientific study of his subject Dr. Williams recognizes that the sources of Haitian Voodoo and Jamaican Myals and Obeahs are in West Africa. But in recognizing a peculiar pythonic snake-cult at Whydah as a leading element of the Voodoo of Haiti, he does not ask us to confound this with various reverences for certain snakes under various conditions in other parts of Africa. Nor does he present the Whydah snake-cult as the whole of Haitian Voodooism. Nor does he recognize this voodooism as pre-existing anywhere in West Africa, ready to be exported. It is a modern fusion of many elements from many different tribes: and in different proportions. The rites vary in different tribes and districts. Two main divisions stand out, the Congo rite and the Guinea rite. And in 1768 the bloody Don Pedro rite developed, as a means of stirring slaves to insurrection. It still exists and is responsible for the tales of human sacrifice that occasionally reach us. But for all details of the fascinating medley, for all questions of the relative influence of Ashanti, Dahomey, Whydah, etc., each one must read for himself.

Turning to the Obeah man or woman, the contrast may at once be drawn that Voodoo is essentially social in its character and purposes. It gathers companies, fraternities, and seeks by mystifying and orgiastic rites to sway them to some social achievement. So does the Myalism of Jamaica, which has been compared to the "Holy Roller" frenzies in the United States. But the Obeah man is fundamentally anti-social. He is the unscrupulous impostor, practicing evil for his private gain, or becoming the paid agent of those seeking vengeance. Mummeries that scare neurotic morons are combined with a wide knowledge of poisons. Captain R. S. Rattray points out that the Ashanti word Obayi, "witch-craft, black magic" is the original of the Jamaican obeah, Obia. Obayifo is the priestly practitioner of Obayi. But both in Ashanti and Jamaica the term is shortened into Obi, in some districts, and used either for the practitioner or his art. In Jamaica to-day the negroes speak of "making obi." There is no agreement as to spelling; obaye, Obeah, obia, obi.

We may not quote pages of the fascinating lore collected. But on page 130, Captain Rattray is quoted:

Sasabonsam of the Gold Coast and Ashanti is a monster which is said to inhabit part of the virgin forests. It is covered with long hair, has large blood-shot eyes, long legs, and feet pointing both ways. It sits on high branches of an odum or onyina tree, and dangles its legs, with which at times it hooks up the unwary hunter. Hunters who go to the forest and are never heard of again—as sometimes happens—are supposed to have been caught by Sasabonsam.

And Captain Rattray says "I cannot help thinking that the original Sasabonsam may possibly have been a gorilla." Now this reviewer sixty years ago had a popular Natural History which described the gorilla as sitting on a low branch and seizing any passing man with a hinder-hand, holding his throat till strangled. "And the gobble-uns'll git ye, Ef ye-Don't-Watch-Out!" It seems Rattray and Dr. Williams were not so fortunate as to own that (un) Natural History.

Dr. Williams' work stands alone: it unquestionably leads the field, but at one point has not succeeded in eliminating all unscientific trash that once passed as learning. He has not discarded the fabulous identifications, both etymological and

substantial, of the African Obi with the Old Testament 'Ob and an imaginary Egyptian snake-ob. We must help him and all modern anthropologists this one step further. The word "Obi" or "obeah" has neither historical nor etymological connection with the 'ob of the Old Testament, nor with any Egyptian word ob or obion, nor with any Egyptian institution. In his *Hebrewisms in West Africa*, 42 ff., and in the present volume, page 109, Bryant's *Mythology* is quoted, as follows:

A serpent in the Egyptian language was called ob or Aub . . . Obion is still the Egyptian name for a serpent . . . Moses in the name of God, forbids the Israelites even to enquire of the daemon' ob, which is translated in our Bible charmer or wizard, divinator aut Sortilegus. . . . The woman at Endor is called Oub or 'Ob, translated pythonissa, and Oubaios (he cites from Horus Apolo) was the name of the basilisk or royal Serpent, emblem of the sun, and an ancient oracular deity of Africa.

Now Bryant's old *Mythology* was written long before the discovery of the Rosetta Stone, when no one knew anything of the ancient Egyptian language: Bryant's Egyptian stuff is to be summarily thrown into the waste-basket. He says "'ob is translated in our Bible charmer or wizard." The King James version has regularly "familiar spirit."—And the woman at Endor: "Oub or Ob, translated pythonissa." But the Septuagint translates *enggastrimuthos*, "ventriloquist."—Bryant simply invents.

Second, no modern lexicon recognizes any connection between the 'Ob of the Old Testament, and any Egyptian word whatever. From the first edition of Gesenius down to the seventeenth, Gesenius-Buhl, this is true. Wishing the very latest information that modern knowledge of Coptic or Egyptian gives, I referred the Bryant passages to the Oriental Institute, University of Chicago. Is there any connection between the OT 'ob and any Egyptian or Coptic word for serpent? Dr. John A. Wilson answered as follows:

I can assure you that I know of no Egyptian word Ob or Aub or Obion or Oub or Oubaios, from the hieroglyphs down into the Coptic. There is also no Egyptian word that I know of that could correspond phonetically to the Hebrew.

Since Bryant cites Horapollon, it should be noted that Horapollon gives *Ouraios*, "uraeus" as the name of the royal serpent emblem, and not Oubaios. Horapollon has a curious hodgepodge of correct values for old Egyptian signs, and fantastic ideas as to values and interpretations. Such a value as 'Ob etc., might well be due to Horapollon or writers of his type, based on some misunderstanding of hieroglyphs. But it must be pure misunderstanding, without satisfactory basis. [Here the reviewer would suggest that Bryant, turning *Ouraios* into Oubaios, thence derived Oubai, Oub, 'Ob—pure inventions.]

There is a possible interpretation of the value *Ob* being assigned to "serpent." The old hieroglyphic word for serpent was *ḥf3w*. This appears in Coptic as *haf* in Akhimimic: *hōf* in Sahidic and Bohairic; but *hōb* in a dialectic variant of Sahidic, perhaps indicating a pronunciation *khōv*. But the Egyptian guttural (Hebrew *kheth*) is too strong a letter to be lost, and we are safe in denying any connection between *khōb* and the [centuries earlier] Hebrew 'ob.

Lastly, due to unscholarly estimates of the Septuagint translation, no lexicon or Bible Dictionary or commentator has dealt fairly with the translation of 'Ob into Greek. We are merely told that it is *enggastrimuthos*, "ventriloquist." It is so trans-

lated in the late legal prescriptions; Lev. 19: 31; 20: 6,27; Deut. 18: 11; Is. 8:19; 19:3; I Chron. 10:13; 2 Chron. 33:6. But scholars now recognize that the legal portions of the OT were translated into Greek first, to meet practical Jewish needs of the day. Other books were translated by different persons at later times. "Ventriloquist" in the law-books means that the teachers of the Law had ventriloquism as a familiar contemporary imposture, and made the perplexing 'Ob to be that. But in Is.29:4, the later translators put "like those who speak from the ground." Other translators in 2 Kings.21:6 put *temenē*, "sacred platforms, enclosures." Still others in 2 K.23:24, put *thelētas*, "will-controllers." All rejected the "ventriloquist" of the law-books. The combined testimony of these pious Greek-speaking Jews is that they did not know what the ancient 'ob was. The anthropologist will please take note that the last pretext for finding any connection between any "obeah" and the OT 'ob is gone, "like the snows of yester-year."

ALLEN H. GODBEY

AFRICA

The Ama-Xosa: Life and Customs. JOHN HENDERSON SOGA. (xvii, 431 pp., 1£ 1s. Lovedale, South Africa: Lovedale Press, 1932 London: Kegan Paul Trench, Trubner and Co.)

The Reverend John Henderson Soga is the second son of a famous Xosa man, the Reverend Tiyo Soga, one of the first of his people to receive a European education and to marry a European woman. John Henderson Soga, like his father, was educated in Scotland and married a Scotchwoman. He has for many years been doing mission work among his own people as a member of the United Presbyterian Mission.

Though he is not a trained anthropologist, the circumstances of his life and his own ancestry have placed Soga in a peculiarly advantageous position for studying the social system of his own people. In many ways the results of his labor are a distinct disappointment. On the one hand, he is almost aggressively and unobjectively a champion of the peculiar variants of custom found among the Xosa in distinction from those of other Bantu peoples in South-Eastern Africa, while, on the other, his outlook as a Christian missionary has prevented him from giving us, from the heart as it were, an account of the religious ritual of his people, or of the actual workings of some of the social customs he condemns.

The present work cannot, therefore, be regarded as the first of that series of monographs on the Tribes of South Africa for which students are so eagerly waiting. Nevertheless, in the present state of our written sources of information on these tribes, each work that deals specifically with the social system of one people instead of, as in the past, with a jumble of "Kaffir" customs, is a gain, and there are certain portions of this book which form a distinct addition to our knowledge.

The book is divided into two parts, the first dealing with the historical developments which led to the present organization of the Xosa tribes, the second, called "sociological," dealing in no very logical order with a number of Xosa customs and beliefs.

The most valuable sections of the book are those dealing with the composition of the Xosa tribes and those dealing with the organization of the Gcaleka, the senior Xosa tribe's army organization. But, there are also clear accounts of the various types of magicians and diviners; a good account of the custom of *hlonipa*, a mode of speech and behavior revealing respect and deference, especially for certain types of relatives by marriage; and an account of *lobola*, or bride wealth, which corrects many of the popular misconceptions concerning this feature of native marriages.

Soga's use of the term "tribe" is unfortunate. The core of the Xosa tribe he tells us is

an aggregation of clan units, as the latter is of family units, all descended from one progenitor.

As a matter of fact, the clan units descended from Xosa do not form any kind of single aggregation with one another, except that, for the most part, they are to be found within the same territorial area, the Transkeian Native Territories of the Union of South Africa.

In this area there is a large number of tribes which are quite independent one of the other in government and native law, if we use the term "tribe" in the sense commonly accepted among the South-Eastern Bantu, of a body of people divided up into a number of clans or sections of clans, which acknowledge the suzerainty of a Paramount Chief who is the heir in the clan claiming the premier position in the tribe.

Clans are not necessarily, nor usually, restricted to one tribe. More often members of one clan will be found in several different tribes, and, indeed, different branches of the same clan hold the chieftainship in more than one tribe. Now, a large number of these clans trace their descent to Xosa by more direct or more devious ways, and the vast majority of people tracing their descent to Xosa will be found as members of a tribe with a chief also claiming descent from Xosa. But on the other hand, sections of Xosa clans may today be found among the Amam-Pondo and other tribes which do not trace their descent to Xosa, while also sections of Amam-Pondo, Ama-Hlubi and other "alien" clans will be found under Xosa chiefs.

As Soga himself says: the various groups of the Ama-Xosa are a unity only in respect of common stock and sentiment (not tribal!). There are today two powerful, totally independent tribes, the Ama-Gcaleka and the Ama-Ngqika, and a number of smaller offshoots, independent under minor chiefs, while some remnants are even incorporated in other tribes.

The paramount chiefs of the two main tribes are members of one clan, the Ama-Tshawe, and the clans of each tribe are, to a certain extent, the same; that is to say, when two brothers quarreled and founded the two tribes, sections of the same clans followed, some one chief, some the other, while since then each tribe has founded some independent clans and incorporated groups of alien peoples.

Taking the senior tribe, the Ama-Gcaleka, we find it has a very interesting organization, revealing one method by which a dual organization of a tribe may be developed.

The clans of the Ama-Gcaleka are divided into two divisions, the I-Ntshinga or royal division, containing all those clans which can trace definite descent from the far-off chief, Xosa, and the I-Qauka division, containing the commoners, of whom some are organized in clans claiming descent from Xosa but very remotely or in ways that cannot be proved, whilst others belong to those sections of clans from non-Xosa tribes which have from time to time been incorporated in the Gcaleka tribe. These divisions function socially to some extent, but play a most definite part in war. The Gcaleka army is composed of the two divisions, I-Ntshinga and I-Qauka, each under its own commander, while the Paramount Chief is commander-in-chief. The army is organized on a clan basis within these divisions, thus differing entirely from the Zulu and Bechuana army organization where the regiments are composed of age sets, and not of clan mates.

In the second half of the book, the descriptions given of marriage, circumcision, and sacrifice are meagre and colorless in the extreme. They add nothing to the facts as we know them already, and of the real value of these institutions to those who practice them Soga gives no hint, such as one might have expected from one living in such close touch with the people. None of the invocations to the ancestors is given, none of the praises which form so important a part of the native literature of these people; no insight into the feeling with which a youth enters on his experience of circumcision, no account of what he hopes and receives from the initiation. All is dull narrative from the outside.

Concerning the specific features for which Soga praises the Xosa above all other tribes something must also be said.

That the Xosa tribes have never been harried by other native tribes is true, but then that is as much due to their protected situation to the south of the tribes who were so harried as to anything else. The Xosa language, largely owing to the circumstances of the spread of western civilization among the Transkeian natives, has become the written and literary language of the Transkeian tribes, so that it has a distinct pull over the Pondo, Baca, and other languages which all belong to the same group of Bantu languages, the Zulu-Xosa group, as it is called.

Soga is relieved that

with all their moral shortcomings the AmaXosa jib at certain forms of immorality.

The custom of *ukungena* "is anathema to them." This is the custom, widespread among Bantu peoples, by which a widow is taken as wife by some relative of her deceased husband, or at least taken under his protection. No one disputes that this custom is liable to serious abuse, but it is quite clear that it enshrines an obligation as well as a right. A widow, especially one left with young children, is definitely provided for under this system, while a woman with grown-up sons always had the right to choose living with her sons rather than remarry. Soga does not tell us at all how the widow with young children is provided for among the Xosa.

Soga seems to prefer the Xosa custom in connection with *lobola* to that of the Fingo. In both cases, cattle are handed over to the bride's father on the occasion of a marriage, but the Fingo and the majority of South-Eastern Bantu tribes fix the

number before the marriage, whereas among the Xosa and some other tribes no number is fixed, in advance, but the bride's family makes claims from time to time, throughout the duration of the marriage and sometimes even into the next generation. Most students of these peoples have found that the unlimited system is far more upsetting to the social order than the limited system. In all tribes the wife's people have the right to protect her against abuse, and to demand a number of cattle from the husband before they will allow his wife to return to him after she has fled to her home for protection. But it is especially among the Xosa, and other tribes with the unlimited system of lobola, that a father can take his wife away from her husband in order to exert pressure on him for more cattle when there is no question of any quarrel between husband and wife. Such pressure can be brought in all tribes when lobola cattle are outstanding, but it is much more liable to occur in the tribes with no fixed limit.

Finally, there is the custom of ukumetsha to which Soga devotes far too much space without giving us any real understanding of the exact scope and function of the custom. Ukumetsha is the custom by which pre-marital sexual relations are allowed, provided no pregnancy results. The same restrictions apply to ukumetsha as apply to marital sexual relations. Where there is clan exogamy, no clan members practise umetsha, no relatives who may not marry may practise umetsha. It is certain that no case could be brought before a native court for the practice of umetsha, provided no pregnancy resulted and no breaking of the hymen. In all the tribes there is strict prohibition of these two things. Apart from this, there seems no doubt that the ukumetsha custom of the Xosa is the same established custom as it is among all the other South-Eastern Bantu. Even in normal native life the men seem to have married fairly late, and ukumetsha was looked upon as a means of satisfying the sexual impulse after initiation and before marriage. Some one ukumetsha partner might be married, but in these South-Eastern tribes apparently this was by no means the normal outcome. The custom has been condemned by all missionaries working among these people, and it is by no means an ideal solution of the sexual problem of the unmarried. But there is no doubt whatever that it is better than European prostitution.

Some day we may hope for a whole-hearted exposition of the customs of his people by one fully imbued with them and able to tell us where they are soul-satisfying and where not. Meanwhile, we must be thankful for the concrete data which Soga gives us, as distinct from his theorizings. But, on the whole, it must definitely be said that he interprets Xosa culture, though it is the culture of his own ancestors, from the standpoint of an alien culture and an alien faith, and that, therefore, we have before us an incomplete, rather dreary picture of Xosa life, except in connection with certain individuals whose life history has captured Soga's imagination.

A. L. HUERNLÉ

Flesh of the Wild Ox. A Riflian Chronicle of High Valleys and Long Rifles. CARLETON STEVENS COON. With a Foreword by EARNEST ALBERT HOOTON and illustrated

by RUTH REEVES (XI, 339 pp., \$2.75. New York: William Morrow & Co., 1932.)

In 1926-27 and again in 1928 Dr. Coon visited the Berber natives of the Moroccan Rif for the purpose of studying their physical anthropology and customs. The results are embodied in Volume IX of the Harvard African Studies (reviewed pages 373-377 of this issue). The present book is described by Professor Hooton as "a literary by-product of Dr. Coon's intimate knowledge of these magnificent barbarians." Based on oral tradition of Rifian history, it is to be read as an essentially authentic delineation of aboriginal usage, minor liberties having been taken with the names of personages - presumably in the interest of concentrating attention upon the fortunes of a single family or lineage from the time of its establishment in the country to the disorganization of Rifian life by European conquest.

Dr. Coon enjoyed the advantage of a fresh subject and has produced a very attractive book. The Rifians differ from most of the primitive peoples who have received literary treatment in their long exposure to a literate civilization—that of Mohammedanism. Their attitude, however, is but moderately tinged with the sophistications of a higher culture. Their feuds, their code of honor, their tenacity of purpose recall the traits of many of the simpler warlike groups the world over. Inevitably the earlier portions of the history make a stronger appeal than the closing narrative of foreordained subjection to Caucasian superiority in mechanical means of warfare. But a measure of interest in the characters is maintained to the bitter end, and by the way the reader learns a good deal about Rifian ethnography.

ROBERT H. LOWIE

Tribes of the Rif. CARLETON C. COON (Harvard African Studies, vol. ix, pp. 417 + xviii, 67 plates. Cambridge: 1931.)

It is a pleasure to welcome another of the handsome volumes of the Harvard African Studies, the ninth in the series, and one that is of unusual interest and of more than ordinary importance. Dr. Coon's book, based on material gathered in two field-trips, (1926-27 and 1928), deals with a people who not only have been little studied, but whose geographical situation and historic past make them of primary significance for the study of relationships between the peoples of Europe and Africa. The investigation aimed at the ethnographic analysis of Rifian culture and the study of Rifian physical types. This double attack, with the end of bringing all the data to bear on a larger problem, is interesting and deserves to be more often attempted. In the instance of the study under review, this larger problem is the discovery of the racial and cultural affiliations of the Rifian folk, and by means of this to see what further light may be shed on the sources of the contemporary North African peoples.

After an introductory section describing the habitat and giving traditions of origin and an abstract of what recorded history tells us, the author discusses material culture, detailing the manner of getting a living and describing crafts and techniques - ranging from metal, leather and wood-working to the method of tat-

tooing. A brief account of social organization is followed by a somewhat fuller description of the political system and of warfare, a consideration of markets, public buildings and types of public instruction, of the officers administering the laws, and of the rules of inheritance. A chapter devoted to the "crises" of life follows, and here tribute must be paid to the work of Mrs. Coon, who accompanied her husband into the field, and who, one imagines, is responsible for the material on birth customs and the life of the children. The description of the culture closes with a discussion of religion and magic, and the data in the entire section are then subjected to analysis in the interest of historical reconstructions. Distribution maps are included in the text, and the traits involved are summarized statistically, being scored on the basis of their presence or absence, and the distribution of scores given for material and non-material culture-traits, which are shown to be fairly closely correlated, statistically speaking. As a result of this analysis, three sub-areas are delimited: the Central Rifian Nuclear, considered as representative of the oldest cultural sub-stratum; the Nomadic and Zenatan region, to the east, and Senhakan and Jebalan sub-area to the west.

The presentation of the physical anthropology is more complete, and one feels that Dr. Coon is more at home in this section. Particular cognizance must be taken of the vast amount of labor that has gone into this study—into the initial measuring and observing, and into the statistical treatment of the data. Body and head measurements were gathered, indices computed, and observations made of pigmentation of hair, eye, and skin, as well as of such morphological traits as hair form and texture, thickness of body and facial hair, of musculature, and of proportions of nose, mouth, and ear. Even pathological data were gathered. Finally there are over thirty plates of excellent photographs of subjects, full-face and profile.

What, then, of these data and the conclusions based on them? The latter may be summarized by quoting the three final paragraphs of Dr. Coon's book:

The history of North Africa has been a succession of cultural and racial whitewashings from the south and east. A people Hamitic or Saharan, call them what you will, swept over it at some early period and brought Berber speech, desert culture, and a refined brunet racial type. Arabs have swept over it, bringing in Islam and the concurrent pattern of culture. Saharan peoples have continued their northward drive well into modern times, the Zenata are a relatively late branch of them. Negroes have come or been brought in, broadening the noses, darkening the skins, forging iron, and brutalizing the lower religious sects of the people. Finally, the French and Spanish have entered, bringing modern civilization which will inevitably stir and ferment the racial and cultural orders, causing changes; destruction, growth, the breakdown of regional isolation, and so great an eventual homogeneity that the curious facts recorded in this volume will become legends, and finally linger in the attic of distorted human memories.

Searching beneath the Berber and Arab blankets, beneath the Negroid seepings and the European scaldings, it is still possible to discern the relics of a long bygone age, a time when northern Morocco was nearer to Europe culturally, and a still dimmer time when the races of North Africa and of Europe were the same. The old elements, a Nordic, an early pre-Alpine brachycephal, and a diffuse Negroid which evolved into the Mediterranean, disharmonic mixtures of several of these; the roster of old North African races reminds one of the Europe of

the late Palaeolithic and early Neolithic, and especially of the periods in between. Had this welter of early types been allowed to work out its destiny undisturbed, our work would have been easier, as it is, early North African skeletal material is needed before our problem may be solved.

By chance this corner of North Africa in which we have chosen first to work is the asylum of the first of these types, an African Nordic. In determining that this race is at the bottom of the Riffian physical composition we wish to avoid the critical fire which is poured in these days on all so brave or foolhardy as to use the word "Nordic", let it be understood that the word here means a race and not a frame of mind, head, hair, eyes, and nose, and not an Olympian psychology. That the Riffians are brave and honorable men, and most pleasant companions, is neither here nor there.

These are conclusions which stand or fall on the strength of the comparative data on which they are based. Of the field material I need not speak, for I have already indicated its value. Where physical measurements are concerned, the sample is adequate, the number of measurements impressive. If, in the description of the culture, the presentation lacks a living quality that ethnographers have come to strive for,—if, after reading the ethnographic section, one does not feel that one knows human beings termed Riffians,—this is perhaps because Dr. Coon was more interested in the number of facts he could gather than in their significance for the people who manifest them. But whether we desire a compilation or description of life in terms of its values, the data stand as having a high degree of reliability.

Let us turn, then, to the comparative treatment. The feeling is inescapable that the book has been written with an orientation that prevented observations being taken to all points of the compass. Moreover, there is no such adequate realization of the unity of Old World culture as is necessary in an historical reconstruction of the development of a people from such a region. This is true in the analysis of both the cultural and the anthropometric data; both with regard to the larger considerations involved; and also the analysis of the material from the restricted area in which Dr. Coon worked. Thus, in social organization, where the biological family and the two extensions of it, the patrilineal *vein* and *bone*, are discussed, the approach is markedly circumscribed by this lack of command of comparative material. In speaking of the *vein*, Coon says:

I have discovered no sociological term in the English language exactly comparable to it.

One might point out that there is the word "lineage" which Gifford and others have employed for the American Indian, or the phrase "extended family" used for the African material. In this particular instance Dr. Coon can be pardoned for not realizing that he is also giving additional evidence for the unity of African cultures, for though the extended family has been found in Nigeria, Dahomey and the Gold Coast in the west, and Linton has reported it as an institution in Madagascar, these reports are not as yet generally available. Other examples of the failure to grasp the theoretical and comparative significance of data appear in the same discussion, where we read of "the family of Oshannen, or jackals" (p. 91), with no further in-

dication of the presence or absence of totemism, nor any clearing up of the statement I have quoted in the light of the one on page 126:

When an ancestor of a certain *vein* or even *bone* has left a reputation which his descendants wish to perpetuate, his name, no matter how remote he may have been, is placed at the end after the patronymic. Such is the case, for example, with the families of Indishen and Oshan-nen, who have virtually acquired family names in the European sense.

The pages on religion and magic strengthen the feeling that the comparative work has not been done with the same skill as the gathering of the material. Thus, on pages 155 and 156, in discussing supernatural beings, we are told of dwarfs or gnomes, and are given legends about them. There is no recognition that the presence of "little" people of supernatural character is deeply rooted in all of African culture—to say nothing of European and Western Asiatic civilizations. Though Dr. Coon acknowledges a Negroid element in the population of the Rif, he does not note such discussions as that of Rattray concerning the "little folk of the forest" as they are envisaged by the Ashanti of the Gold Coast. Instead we find the following statement:

The first version [of a given tale] implies a gnome-like type of creature and the second seems to take its inspiration from China.

Again, in the same chapter, on pages 146 and 147, we are given an abstract of the Biblical flood story that explains why there are various kinds of women. This tale is cited with no comment that it has been recorded from the Konnoh of Sierra Leone. It is also Armenian.

The same criticism holds for the use of comparative material in analyzing the findings in physical anthropology. We may consider, as an example, the handling of the African data. Negro influence is again and again noted in the discussion. The problem of the Negroid elements in Berber culture and in Berber physical types has been widely discussed, though too often on the basis of inadequate data. Yet in the comparative tables we find the classification of "Africans south of the Sahara," and under this are grouped peoples as different as the Shilluk of East Africa and West Coast Negroes. In addition, as is the case with cultural comparisons, the data on West Africans are incomplete even considering the gaps in the published material. Apparently Martin's compilations and Weninger's series have been utilized and there the matter has been allowed to rest. It is not unreasonable to expect that having a reference in Martin to Mansfeld's Etoi measurements, Dr. Coon, in the light of his careful statistical treatment of his own data, would have looked up the original publication to see if computations more revealing than the bare averages found in Martin's work might not be made from the raw data. We fail to find in the bibliography references to Rattray's short but useful series from the Ashanti, while more serious is the absence of Tauxier's measurements, something the less understandable since most of the literature in which Dr. Coon worked was that of French students.

Even more striking is the absence of references to measurements of Jews. Jews have apparently lived in the Rif for a long time. In the chapter on Riffian traditions

of origin we find a tale (p. 21) of the conflict between a Jew and one of the early heathen kings. On page 26 we read that Michaux-Bellaire, who investigated and exploded certain extravagant claims of an early Jewish kingdom in this region,

feels nevertheless that the period of history specified in the tradition may have been one of strong Jewish influence in the Rif

Apparently Coon accepts this, for he states,

ritualistic action in a modern Rifian religious ceremony, and dramatic representations in the annual carnival, seem to support his idea,

adding a footnote that two students of the Jews of Morocco feel

that Jews may have been in this region since before the Babylonian captivity.

Later in the discussion of social organization we find that the Jews have a stated place in Rifian culture—they are despised, it is true, but they are and have been present long enough so that their place is a recognized one (p. 95). Thus, we find, in the discussions of religious celebrations (pp. 151–154), that the impersonation of Jews is an accepted and regular portion of the ritual. In the light of this it is difficult to understand how no comparative measurements of Jews are found in tables. We find in these comparative tables measurements of the inhabitants of regional groups in Norway and Sweden, of Icelanders, of old Americans; averages for North Africans of various stocks, of Africans south of the Sahara, of Asiatics. But not even published measurements of North African Jews are included, to say nothing of the large number of European Jews measured in the United States by Boas, or of the Jews of the Near East studied by Von Luschan.

It would seem that the eye of the author has been directed too steadily toward the polar star. That the problem of provenience of the blue-eyed, blonde inhabitants of the Rif is an important one, I grant most readily, nor do I minimize the significance of the statistical analyses of comparative figures which Dr. Coon presents to show the resemblance of the Rifian type to that of these Northerners. That in table after table the comparisons do not seem to have statistical significance is perhaps aside from the point. The fact remains that had Dr. Coon not been influenced by the presence of the blonde Rifians, and had he taken as great care to make his comparisons between the Rifians and the peoples to the South and East as he was to make them between the Rifians and the peoples to the North, his book would have had inestimably greater value. I, for one, am left with the doubt whether his conclusions would have remained unaltered.

Dr. Coon must nevertheless be accorded all recognition for furnishing us with so much valuable information. For, in the final analysis, he has studied at great pains and with the expenditure of an enormous amount of effort, a people who must be regarded as occupying one of the critical positions for an understanding of the migrations and contacts in this region of the Old World.

MELVILLE J. HERSKOVITS

OCEANIA

Die geheime Gesellschaft der Arioi; eine Studie über polynesische Geheimbünde mit besonderer Berücksichtigung der Siebungs- und Auslesevorgänge in Alt-Tahiti.

W. E. MÜHLMANN. (Supplement to Internationales Archiv für Ethnographie, volume 32. Leyden: E. J. Brill, A.G., 1932.)

The Arioi secret society was found flourishing in Tahiti during the early years of the occupation of the Pacific by Europeans. It was composed of persons of both sexes drawn from all classes of society and arranged in a succession of grades of ascending dignity. Its members are described as of great personal beauty and skilled in chiefly accomplishments. Its symbol was the red girdle, an emblem which, after the decay of the society, became a military badge worn by the bodyguard of the ruling chief. Its ultimate reward was a future life in an earthly paradise of immortal youth and the enjoyment of all sensuous delights. The lower grades of the society were composed of skilled singers, dancers, actors, and reciters of oral tradition, all arts developed under an elaborate code of traditional convention in Tahiti. Members were trained in boxing, wrestling, and spear-throwing, and in the no less prized arts of competitive satire and word play. The name Arioi is taken from the houses in which the young people of either sex were gathered for training. Skill in these accomplishments was laid to direct inspiration by their god Oro, and the candidate for admission into the society threw himself into a hysterical condition which was interpreted as proof of such spirit possession.

With the fall of the old faith, the adoption of Christianity, and the union of political power under the Pomare family, who owed their position to their support of the British mission, the Arioi society ceased to function in Tahiti. Because of its strong hold upon the social structure of this and the adjacent islands and because of some features reckoned anti-social in its practice, it has been described with some fullness of detail by early visitors. In this admirable monograph Dr. Mühlmann attempts a collating and evaluating of these documentary sources, rather than the addition of fresh field material. There is no reason to regret that the Ormond papers, published by the Bishop Museum of Honolulu, appeared too late for consideration in his study, since they really throw no new light on the subject. The contribution made by Dr. Mühlmann, other than this of bringing together all known early source material on the Arioi society, is the picture he presents of its actual development and functioning in relation to the social conditions under which it arose. In a culture strictly graded according to family inheritance, it provided a selection and hence a re-distribution upon a different basis, that of individual ability. It was democratic in that any person of parts might win initiation into the lower ranks and rise to the higher. It was aristocratic in that the requirements for initiation into the higher grades were possible only to persons of wealthy families, that is, to the chiefs. It therefore offered a way out of class ossification without revolutionizing social traditions of rank.

Almost half the study is devoted to that anti-social feature of the Arioi initiation which most shocked the susceptibility of Europeans, the required vow of child-

lessness and hence of infanticide Dr. Muhlmann explains the practice, not as indication of peculiar barbarity on the part of this society in Tahiti, where alone the requirement has been reported, but as a "culture disease" arising from a whole complex of corresponding beliefs and practices common throughout Polynesia. Not one motive alone accounts for the practice. It is rather the result of many motives acting upon the social consciousness. Such are the fear of over-population which had made infanticide a necessity in some communities; the desire on the part of a woman to retain that beauty which seems to have been, besides, a trait particularly prized among members of the society, the religious insistence upon the sacrifice of firstfruits to the gods; the customs regularly sanctioned in connection with social rank, like those which transferred to the child at birth the parents' rank, or allowed a parent of lower rank to raise his own rank by the sacrifice of his child, or even required of a chief the killing of offspring born through an alliance with a commoner. It is through the realization of such a psychological background that the Arioi vow of childlessness is to be understood. The society itself was in fact not a decadent movement but a progressive one, toward a fuller and more expressive life for the individual, with its final aim the attainment of future happiness. Nevertheless, adds Dr. Muhlmann, if the vows were actually carried out literally, it must have become destructive of family permanence.

This part of Dr. Muhlmann's analysis shows his work at its best. Here, however, his lack of actual field knowledge leads him perhaps to overstate the case. If I am rightly informed by Polynesian ethnologists in the field today, the vow was binding only upon the lower grades of the society and was not imposed upon those who entered at once into the higher orders. This means that it was obligatory only in those grades of the Arioi open to the lower classes of society, and may hence be recognized not as an institution peculiar to the Arioi but as a means of purging the society from the offspring of low-born alliances. Moreover a man might retire from the organization and become a good family man at any time; he was not bound like a monk to his order. Abstinence was in fact no part of his vow. The fact should also be emphasized which is mentioned too casually by Dr. Muhlmann that an infant who had lived a half hour was to be spared. The barbarity of the test is thus considerably lessened. The effect upon the susceptibilities of the Tahitian must have been no harsher than that upon a child of our own race who is told that he may save but one of a family of kittens, a practice which on the other hand must seem to a good Brahmin particularly barbarous. A similar appeal to common custom might be made for another anti-social practice for which the Arioi society is condemned, that of the wholesale plunder of a district during the course of an annual visiting tour, by which the Arioi became the hated enemy of the settled and productive members of the group, the bourgeoisie, and thus paved the way for their own downfall. Basil Thomson has described among the Fiji customs by which the ranking chief of any district has the right of spoliation of the property of his mother's clan, and the visiting members from one village that of spoliation of another village having the same god, that is, claiming origin from a common source. It is in the

light of such social ideas rather than of our own of private property rights that we must explain the Arioi depredations upon the property of others.

The monograph is part of a larger unpublished dissertation in which Dr. Muhlmann has discussed, among other phases of his subject, the range of distribution of similar organizations over the Pacific area. In Melanesia he equates the Arioi with the Suque society of the New Hebrides. In Polynesia similar institutions are reported for the Marquesas, Mangareva, Rarotonga, and Hawaii. In Micronesia they are reported for the Marianne islands. Dr. Muhlmann also links the Arioi society with the Hawaiian institution of the hula. In this connection it is interesting to note a statement made to Miss Green by a former hula dancer at the Hawaiian court that a hula master in order to qualify as an expert was required to kill a relative and hence generally selected a new-born infant for the sacrifice. This fact would be more significant of relation to the Arioi vow were not the same test reported for the obeah man of Jamaica, where there can hardly be a question of direct diffusion. Rice's story of Makuakaumana, however, the last in his collection of tales from Hawaii, and the Hawaiian teaching of the Earthly Paradise and the twelve mysterious islands of Kane, seem to have developed like the hula dance under the direct influence of a similar re-sifting of society such as is represented by the Arioi society in Tahiti, and a similar cult of immortality in a happy Otherworld.

MARTHA WARREN BECKWITH

Die Südseetöpferei. MARGARETE SCHURIG. (229 pp., 9 maps, ills. Leipzig: Bruno Schindler, 1930.)

The late Margarete Schurig's *Die Südseetöpferei* contains the only available collection of detailed data regarding pottery in Oceania and is a valuable reference book for students of the area. The data, gathered from the literature of Melanesia, New Guinea, Micronesia, and parts of Indonesia, and from examination of museum specimens, are accompanied by maps showing the distribution of pottery-making centers and technics, by sketches illustrating local pot shapes and decorations, and by pottery vocabularies. Dr. Schurig was interested in the sporadic distribution of pottery technics, used in fabrication centers, as a key to the historic spread of the pottery complex in Oceania. She has grouped practically all the methods used for making pottery in the South Seas into two historically independent types: the "Wulst" or coil technic, and the "Treib" technic, by which a pot is modeled or beaten out of a lump of clay. These pottery distributions have been mapped and used as the basis for historical reconstructions.

Pottery technics are not necessarily stable, as is demonstrated by Wray's record of the genetic relation between "Treib" and "Wulst" technics on the Perak river.¹ Therefore, whether or not the two technic categories used by Dr. Schurig form a valid basis for historic reconstruction may be questioned. But the two categories may be highly suggestive if used critically. However, in *Südseetöpferei*, data regarding method of fabrication acquired by direct evidence and that in-

¹ The Malayan Pottery of Perak, JRAI 33: 27-30, 1903.

ferred from the shape of the vessel or the ornamentation are used indiscriminately, and there is a lack of careful differentiation between the mapping of pottery fabrication centers and localities from which pots have been recorded, but where they may have been acquired by trade.

Dr. Schurig reached the following conclusions: "Treib" pottery is associated with Melanesian-speaking peoples and spread by migration from the west; whereas, "Wulst" pottery is associated with Papuan-speaking peoples, is autochthonous in the New Guinea-Melanesian area, and is the older of the two types.

The evidence that "Treib" pottery is associated with Melanesian-speaking peoples and spread from the west is convincing, although the mechanism of its diffusion is doubtful. Also, the inference that coiled pottery is the older type in the area is highly probable. The correlation of coiled pottery with Papuan-speaking peoples, however, proves to be unsubstantiated by the facts. Dr. Schurig's conclusion was reached by the following argument, which involves a confusion of culture, language, and race. In New Guinea, according to a comparison of pottery distributions and Buschan's linguistic map, "Treib" pottery-making centers lie within the Melanesian speech areas, while "Wulst" centers lie within the Papuan or Papuo-Melanesian areas. In Yap and the Pelews, where "Wulst" pottery is used exclusively, it is made only by peoples of strong Papuan physical type. In New Caledonia the exclusive use of coiled pottery is attributed to the presence of Papuan culture. No attempt has been made to carry further the correlations of pottery technics with linguistic areas, race, or culture.

These conclusions have been checked and a correlation made between pottery-making centers and technics for which there is direct evidence in the literature and additional linguistic data from both New Guinea and Melanesia, with the following result. Only three positive cases of correlation of coiled pottery with Papuan-speaking groups have been found in either New Guinea or Melanesia. The first is that of the Mailu, who, according to Malinowski, have probably acquired their pottery complex from their Melanesian-speaking neighbors, the Southern Massim.² The second is that of villages of the Sepik. This case may be explained by the hypothesis, suggested by Thurnwald, that a fusion of Papuan and Melanesian culture has taken place in this locality.³ The third is that of Southern Bougainville, where the complex may have been acquired from the Melanesian-speaking potters of the islands of the Bougainville straits. Critical examination of the data reveals that coiled pottery is usually associated, not with Papuan groups as Dr. Schurig concludes, but with Melanesian-speaking groups. Therefore, in Melanesia and New Guinea both the "Treib" and the "Wulst" technics are found almost exclusively in Melanesian-speaking groups.

One of the most significant chapters in the book is that entitled "Die Süd-seetöpferei und die Kulturkreislehre," in which the author satisfactorily disproves

² Natives of Mailu. *Transactions of the Royal Society of South Australia* 39: 507, 1915.

³ Banaro Society. *AAA-M* 3: 280, 1916.

Graebner's theory regarding pottery in Oceania and exposes the weakness of his "Kriterium der Form" in regard to pottery.

LAURA THOMPSON

Notes d'ethnologie Néo-Calédonienne. (Travaux et Mémoires de l'Institut d'Ethnologie, vol. VIII.) MAURICE LEENHARDT. (X, 341 pp., 48 figs., 36 pls., 2 maps. 120 fr. Paris: Institut d'Ethnologie, 1930.)

The author, Professor Lévy-Bruhl informs us, lived in New Caledonia for twenty-five years as a missionary representing the Société des Missions Évangéliques de Paris. In his own Introduction M. Leenhardt explains that the natives—numbering 16,190 in 1922—are now almost wholly converted to Christianity, but that he has sought to recover what he could of the ancient life so far as it had remained unrecorded. As a matter of fact, he has produced a monograph of very high value in which technology is not slighted, while other aspects of culture preponderate.

Of outstanding interest are the discussions of social relations. As elsewhere in Melanesia, there is a delicate balancing of maternal and paternal affiliations with a rather definite weighting in favor of the former. Characteristically, the word for "mother" is used with the possessive designating inalienable ownership, while the term for "father" (but also for maternal uncle) has the possessive separated by a particle indicating a dissoluble connection (pp. 56, 60 f.). The husband has a fixed hut, to which his wives are taken, there is the *clan paternel* (p. 77), and succession to chieftaincy is from father to son (p. 89), yet the paternal *totems* play no part.

Les vieux sont unanimes à déclarer que les totems revendiqués par les clans comme leur ancêtre sont très souvent des totems maternels, dont les femmes ont su imposer la tradition à leur propre fils (p. 202).

In keeping with this trend is the exaggerated significance attached to a maternal uncle's curse (p. 253), the notion that the father must indemnify the mother's brother whenever his son accidentally loses some drops of blood (p. 84), and a score of other usages.

Tillage (pp. 106-142) is described in detail for taro and yams. The participation of both sexes is noteworthy, likewise the overshadowing rôle of the correlated magico-religious ritual. It is this, as M. Leenhardt insists, rather than the technical processes that make of native husbandry so complex an affair.

A full account of the ceremony labeled as "pilou pilou" (pp. 143-178) forms one of the most valuable chapters. Its composite character recalls some of the American Indian festivals. The ostensible aim is to propitiate maternal ancestors by glorifying uterine nephews, lifting funerary taboos, and expressing joy over the births that have taken place and over the initiation of young men. Actually, a variety of other features are registered, such as sham fights (p. 162) and markets (p. 175 f.).

The editors of the series, Messrs. Lévy-Bruhl, Mauss, and Rivet, are to be congratulated on having rendered possible the publication of this thoroughly admirable work.

ROBERT H. LOWIE

De boomstamkano in Indonesie. C. NOOTEBOOM. (Ph. D. Thesis, University of Leyden. 8°, 240 pp., pl., ill. Leiden: N. V. Boekhandel en Drukkerij, 1932.)

Dr. C. Nootboom's book lives up to the highest standards of Dutch anthropology and to the wholesome tradition of the University of Leyden. His present work on the dugout in the Malay archipelago was done as a thesis under the supervision of Prof. Dr. J. P. B. de Josselin de Yong, which in itself is a guaranty of quality. Dr. Nootboom knows what he wants and does nothing less than what he promised to do in his introduction. It is seldom that we can give an anthropologist credit for this.

Dr. Nootboom did a piece of museographic research, making no attempt to classify the various types of dugouts, but studying them according to their distribution. This method, Dr. Nootboom was fully aware, has its dangers, a canoe being an object *kat-exochen* destined for migration. But having at his disposal the marvellously reliable Dutch museums and some literature, he has been able to double this cape of dangers without difficulties.

In his Introduction he states that his original aim was to make a complete study of Indonesian boats. Space and time forced him to limit himself to the dugout, and those boats built of one tree trunk, the side walls of which are elevated by means of planks. Yet he excludes those where the dugout forms but a small part of the body of the boat. This delimitation is obviously subject to personal evaluation. Yet we may say that Dr. Nootboom did it for the best.

Spatially this study includes the Malay peninsula and the Philippines, but excludes New Guinea. It is based on museum specimens and models (both from Holland and other European countries), photographs, and various sources. While the first are genuinely reliable, the literature is scarce and of a rather poor quality. The descriptions concerning the manufacture of the canoes, and chiefly of the method of bending the wood and enlarging the canoe by means of water, are very short and not altogether reliable or explicit, as Dr. Nootboom points out. Detailed and reliable information concerning ceremonies and other aspects of native life directly connected with navigation are lacking. Thus Dr. Nootboom had to abstain from a functional approach, giving instead a thorough piece of typologic and geographic investigation.

Since there is no perfect book in the world, we feel that a few minor objections will not seem to diminish the great value of this work. It can not be understood why Dr. Nootboom in his bibliography fails to give complete references as to the year and place of publication of sources that appeared in book form when he gives them with such commendable care for miscellaneous papers spread through magazines. But on the other hand the bibliography was well chosen, though, of course, incomplete. We do not feel that we ought to question Dr. Nootboom's choice.

A fact of greater bearing is that no attempt was made to use historic, semi-historic, or fictional native sources, which contain profuse information about navigation. Hikayat Hang Tuah, Sadjarah Malayu, the Bugi and Macassar Codes of Navigation (published by Dulaurier in the Pardessus collection), and many other sources would have proved valuable, though mostly referring to larger boats.

An etymologic analysis of native names would have been welcome. Nevertheless special mention should be made of a good index of native terms.

The perusal of the book is greatly facilitated by an index of Dutch navigation terms. In a few instances explanations concerning measures like "rijnlandsche voet" would have been welcome.

Profusely illustrated, this book is a very valuable documentary contribution to Indonesian arts and crafts. Those not acquainted with the Dutch language, more and more indispensable to the anthropologist, will be able to profit greatly by looking carefully through the plates and illustrations.

It would be impossible to make a résumé of Dr. Nootboom's book. After an exposé of the available material on manufacturing the canoe, Dr. Nootboom devotes several chapters to the various Island groups. He opposes the great variety of the Palembang canoes to the less numerous types of the rest of Sumatra. This may be due either to the fact of real cultural superiority or to the economic importance of Palembang where we have to deal with a profusion of all sorts of boats.

The very conclusion of his book is not a résumé, but a rapid survey of information available on the functionalistic rôle of dugouts and navigation. One deplores with the author the scarcity of information concerning the art of navigation. He also discusses several conspicuous points such as a "thorn" preventing some boats from bumping into rocks under the water, and devotes the rest of the chapter to a brilliant analysis of the outrigger and the construction by means of which it is supported by the boat, from both typologic and geographic angles. One wishes the map of distribution would be on a greater scale.

Dr. Nootboom has compiled practically all material available, and should an anthropologist interested in material culture go into the field with the aim of supplying the lacking information, he could use at every step this most commendable piece of work.

If every year ten books like Dr. Nootboom's appeared, many "general anthropologists" far above such vile things as material culture would be forced to put in a claim for bankruptcy, which is about the best praise one can give Dr. Nootboom, whose further works we hope to follow with keenest attention.

GEORGE DOBO

MISCELLANEOUS

Revelation in Mormonism: Its Character and Changing Forms. G. B. ARBAUGH (252 pp., \$3. Chicago: University of Chicago Press, 1932.)

Mormonism has always presented an interesting subject for students of comparative religion. Even the great Eduard Meyer was willing to turn aside for a while from his preoccupation with the history of the Ancient World and write a work on it. The reason for this interest lies in three facts: first, it is of recent origin and most of the details connected with its inception and growth are known; secondly, the claim of its founders that it was revelation can be thoroughly investigated; and, lastly, it furnishes us with an excellent example of the meaning and nature of propaganda.

Mr. Arbaugh confines himself exclusively to the second of these points. On no subject, of course, is impartiality more essential as here, and on no subject is it more difficult of attainment. The author insists that he has let the facts interpret themselves and that he has never been influenced by ill-will. But facts never interpret themselves. That is one of those meaningless clichés that many modern historians indulge in to indicate that they are objective. Facts are practically prejudged, in their presentation. Any historian who frankly tells you that the devotion of many fine-souled Mormons calls for sympathy and for a revealing of the true facts of their religion, and that he wishes that such disillusionment were unnecessary, such an historian is of course not objective. Mr. Arbaugh's book then must be regarded as a painstaking and externally accurate description of the origin and growth of Mormon doctrine by one who is so overwhelmed by what was pretense and downright falsification in it, that his sense of fairness and morality blind him to those aspects of the problem that interest the historian of religion or the psychologist. But questions of fairness, morality, consistency, honesty, have, as such, no place in such investigations. He is palpably disturbed that Joseph F. Smith should say

God revealed to me in terms incontrovertible that Brigham Young succeeded lawfully to the presidency of the church

and that he should then testify before the Senate Committee that there is no law of succession. Why is it necessary to sneer at Smoot's able protection of Utah beet sugar as an "inspiration of the Almighty"? It is part of all religions to justify their success in this way.

With regard to the specific question of whether the revelations announced by the founders of Mormonism and later prophets are authentic or not, Mr. Arbaugh takes an entirely negative position. To him they are more or less conscious fabrications, of which their authors were aware. He proves that the material out of which the texts were woven was taken from all sorts of sources. But what bearing has this on the problem under discussion? Would they have been more authentic if their authors had possessed more of a poet's imagination? Similarly he rejects all those interpretations of Smith's personality which would make him out to be either a defective or a man of paranoid tendencies. While personally I think that Mr. Arbaugh is right when he insists that there is far too much psychologizing and psychoanalyzing of historical personages, still one suspects that the author is particularly insistent upon this point because he wishes to make Smith out as absolutely normal and well aware of what he was doing. For him Smith and the other founders of Mormonism knew the value of revelation in an emotionalistic sect and proceeded to use it. Yet even if this were true it would not prove that the founders themselves had not had revelations or that they were not paranoid in the general sense of that much abused term. Psychologically it is, as a matter of fact, very unlikely that Smith would have been able to recognize people's susceptibility to "revelations" as keenly as he did, unless he had himself been subject to some form of hallucinatory intoxication.

If, however, we cannot accept Mr. Arbaugh's contentions as proved, that does not interfere with the merits of the book—its clarity, thoroughness, and presentation of all the facts, whether they fit into his theories or not.

PAUL RADIN

Spencer's Scientific Correspondence with Sir J. G. Frazer and Others. Edited by R. R. MARETT and T. K. PENNIMAN. (174 pp. \$3. Oxford: Clarendon Press, 1932.)

The greater part of the present volume consists of correspondence between Sir Baldwin Spencer and Sir James Frazer, though a number of letters to Howitt, Fison, Balfour, Marett, Lang, Roth, and Rhys are included. The collection makes illuminating and, it may be added, fascinating reading. On nearly every page arresting items stand out. Here are just a few:

Books like mine, merely speculative, will be superseded sooner or later (the sooner the better for the sake of truth) by better inductions based on fuller knowledge; books like yours, containing records of observation, will never be superseded (Frazer to Spencer, p. 22).

I need hardly say that the *Golden Bough* has been most useful to me. Of course Gillen and I have worked a great deal together up in the Centre, but most of the actual finding out of things has of necessity to be done by him. I send him up endless questions and things to find out, and by mutual agreement he reads no one else's work so as to keep him quite unprejudiced in the way of theories (Spencer to Frazer, July 12, 1897, pp. 9-10).

As you know, even apparently trivial details may turn out to be of great significance. So get everything you can and despise nothing (Frazer to Spencer, p. 57).

If the American ethnologists are going to adopt his [Powell's] views [on totemism], we shall have no end of confusion (Spencer to Frazer, p. 77).

Any work that I have done has been due to this initial stimulus of Moseley and Tylor, and later and still more, to that of Frazer (Spencer to Balfour, July 17, 1913, p. 160).

The reader gets a living insight into the methods and assumptions of Spencer himself, as well as many valuable, and, to the present reviewer at least, new lights on Spencer's co-workers in the Australian field. Anyone interested in Australian source criticism will find scattered through these pages many significant hints and sidelights not to be found elsewhere.

JOHN M. COOPER

Enquête sur les Figurations Néo- et Enéolithiques: Statues-Menhirs, Stèles Gravées, Dalles Sculptées. Le Commandant OCTOBON. (Reprinted from *Revue Anthropologique*, vol. 41, pp. 301-579. Paris: Librairie Emile Nourry, 1931.)

There are in France on rough monolithic pillars, on slabs in megalithic tombs and on the walls of rock cut tombs in the Marne a large number of anthropomorphic carvings which have long been recognized as bearing a general resemblance to each other and also as falling into a number of separate groups of more restricted type and distribution. There are in addition other carvings on boulders and megaliths, of other objects, as well as fluted and phallic pillars of clearly different character and of much later date. Commandant Octobon has collected and summarized the material on all these types of carving in France, illustrating the more important ex-

amples of each. He proposes a classification that is based on mode of occurrence, type of carving, details represented, and regional distribution, and then proceeds to analyze each of his types. He finally suggests the interrelations and relative chronology of the various types. Since most of this material was first discovered in the latter part of last century and was published in the journals of local societies and guide-books, a great deal of it has remained generally inaccessible, and the author has performed a very valuable service in making this corpus

His analysis brings out clearly the contrasts both in style and technique between (a) the anthropomorphic bas-relief carvings in the megalithic and rock-cut tombs of the Paris basin (Seine et Oise and Marne) and in the lower Rhone valley (at Collogues) and (b) the free standing carved statue-menhirs mainly restricted to the southern part of the Central plateau. Among other reasons for regarding the former (a) as earlier is the representation of the hafted stone axe found on these bas-relief carvings as opposed to the hilted dagger found on the rounded sculptures of statue-menhirs attributed to the early bronze age. Attention is not called, however, to the appearance of the dagger in both the N. Italian groups related to (a) and (b) respectively. The author produces little evidence for his view that statue-menhirs derive from phallic pillars, for which no prototype is known, elaborated into sculptures of human figures, and his comparisons with carvings and statuettes among the furniture of megalithic and other tombs in Iberia and the East Mediterranean is somewhat perfunctory.

In the conclusion the author indulges in a number of speculations, at present quite incapable of proof, concerning the significance of the position of the carved slabs in the tombs in relation to putative guardian functions, and he ends in the fashion popular in French archaeological writings of the end of last century, with a long list of rhetorical questions.

This is a very useful collection of material and will be a valuable source of reference for workers on megalithic and bronze age cultures of Western Europe. It is unfortunate from this point of view that the text and illustrations have not been better arranged and cross-referenced. Forms which the author shows to be related are not considered in sequence, but are separated by sections on other types, while there are no page references in the comparative sections and no index. The monograph thus becomes unnecessarily difficult and tedious to use. There are a very large number of illustrations, most of them half-tone. For these we must be grateful, but the photographs are mostly old ones taken with little skill, and the blocks are printed on such poor paper that they fall far below the standard necessary for the study of such objects and to be expected today. There are no distribution maps.

C. DARYLL FORDE

Wiener Beiträge zur Kulturgeschichte und Linguistik. Jahrgang I. Herausgeber: Dr. WILHELM KOPPERS. Redakteur: Dr. FRITZ FLOR. (399 pp. Wien: 1930.)

This is the first volume in a series projected by the Institut für Volkerkunde of the University of Vienna. The plan is to get out each year some twenty to twenty-

four articles, either in one volume, as here, or in two or three numbers. The name indicates the type of problem which will be stressed. This volume contains the following titles: Fritz Flor, Haustiere und Hirtenkulturen; kulturgeschichtliche Entwicklungsumrisse, W. Schmidt, Die Beziehungen der austrischen Sprachen zum Japanischen; Fritz Rock, Das Jahr von 360 Tagen und seine Gliederung; Robert Bleichsteiner, Die werschikischburischkische Sprache im Pamirgebiet und ihre Stellung zu den Japhetitsprachen des Kaukasus, Christoph v. Furer-Haimendorf, Das Jungesellenhaus im westlichen Hinterindien; Georg Holtker, Dvandvaähnliche Wortkuppelung im Aztekischen, Wilhelm Koppers, Der Hund in der Mythologie der zirkumpazifischen Völker.

More than half the volume is taken up by Dr. Flor's painstaking study of the evidence—osteological, archaeological, ethnological, linguistic, and historical—bearing on the history of the domestication of the dog, the reindeer, the elk, and the horse. Underlying the whole argument is an avowed acceptance of the historical actuality of the Graebner-Schmidt cultural sequences. The author believes that the invention of the breeding principle was a unique occurrence in the history of man, but points out that this does not involve a belief that the domestication of, say, all dog species, is to be traced back to a single epoch or area. He is aware of the difficulties involved in this type of investigation, and does not pretend to be offering finalities. He does believe, however, that a few things stand out as certain: that the first dog-breeding belongs to a proto-Eskimo arctic culture; that the oldest reindeer culture was among the proto-Samoyeds (and ancient Lapps), with the oldest stage probably linked with the "snowshoe culture"; and that horse-breeding is oldest among the proto-Altaians. He believes it probable, though not certain, that reindeer-breeding was in certain senses the prelude to horse-breeding, a view first expressed by Koppers, I believe. The use of the elk in northern Europe he derives from contact with reindeer-herding.

Father Schmidt contributes a critique of Dr. Matsumoto's book "*Le Japonais et les langues austroasiatiques*."¹ Schmidt objects to the use made of the term *austro-asiatique*, but his opinion of the book is on the whole high. He believes that some sort of connection between Japanese and the Austric languages has been proved, but rejects the conclusion that the latter group stands in *parenté initiale* to Japanese because so few of the correspondences go back to the time of unity of the Austric languages, and because of important differences in structure between the two groups. Schmidt would not, however, call the existing correspondences borrowings, but suggests that the Austric languages have been an important *Mischungselement* in the formation of Japanese.

Dr. Rock presents a summary of the information now available on the 360-day year, listing the conflicting views of various investigators as to its origin, and discussing the different structural forms which it has taken among various peoples. A survey of the distribution of the 360-day year yields few definite conclusions at

¹ Austro-Asiatica. Documents et travaux publiés sous la direction de Jean Przyluski, Tome I. Paris, 1928.

present. However, in spite of the basically different forms involved, the author believes in a single center of diffusion, on geographical grounds. American scholars will hardly subscribe to his casual use of the Blackfeet in bridging a gap from Hawaii to Mexico. His bibliography should prove valuable to anyone interested in primitive calendars.

Dr. Bleichsteiner furnishes a comparative study of the closely related dialects, *Burusaski* (Leitner's *Khajuna*) and *Warsikwār*,² once doubtless rather widely spoken, but now confined to a restricted area in Pamir. These pre-Indo-Iranian dialects have been the subject of much speculation. The author agrees with Marr in assigning them to the "Japhetic" group, and believes their closest relationship to be with the languages of the north-east Caucasus.

Christoph Furer-Haimendorf finds the young men's dormitory lacking among the Austro-asiatic peoples of western Indo-China, but flourishing elsewhere in the area. The author distinguishes three main types: the form which serves as the social center of the village, where boys live under strict discipline from puberty to marriage; the form which serves as sleeping-quarters for the unmarried men, but is without political significance; and the form which serves the amours of the young. He believes the first type to be original, and looks upon the second as a degeneration, brought about through the increased power of the chief.

Dr. Höltker contributes a brief analysis of a particular type of Aztec compound, made up of two substantives joined together without copula. Walter Lehmann has applied the Sanskrit term "dvandva" to these compounds, but the author finds this somewhat misleading, since the compound does not express a coordination of its elements, as does the *dvandva*, but functions typically as a metaphor, like "eagle-jaguar," meaning warrior.

In the last, and perhaps most stimulating article, Father Koppers expresses his belief that the distribution of a myth involving the marriage of a woman and a dog has demonstrated from a new angle the reality of a cultural dependence of the new world on the old. His main argument, briefly, is this. A belief in descent from a woman and a dog can be traced continuously from south-eastern through eastern and north-eastern Asia to the Eskimo and the northern Déné; the aborigines of China seem to have been at or near the center of diffusion of this belief, the Eskimo got this myth from the Déné, since the Caribou Eskimo, taken to have the oldest Eskimo culture, use it only to account for Indians and whites; the dog-husband tale, without the belief in descent, has a much wider distribution; but throughout the entire area the woman involved has an exalted social position and occupies the foreground of the tale, showing a matriarchal viewpoint and provenience, and thus confirming the migration of a matriarchal culture from Neolithic China to North America by way of Bering Strait. Subsidiary arguments based on other beliefs regarding dogs are used to connect Mexico with south-eastern Asia by an ocean route.

In analyzing the author's extensive data, this reviewer feels convinced only

² I have used Grierson's terms, to avoid multiplying designations for these dialects

that some sort of tale involving marriage between a dog (or a bear, or tiger, etc.) and a human being (the respective sexes are occasionally interchanged) is to be found the length of the eastern shore of the Pacific, and extending well into North America. That these tales can be described as having equivalent or comparative form seems open to serious doubt. The belief in personal descent from this union seems to occur unequivocally only in south-eastern Asia, and among the Eskimo and neighboring Déné. (The Tungus have as ancestors a man and a bitch.) Elsewhere the offspring tend to figure as ancestors for neighboring tribes, or for whites, or they fail to function as ancestors at all. The argument that the Eskimo took the myth from the Déné could be as readily reversed, since it is only those Athabaskans in contact with the Eskimo who account for themselves through it. The use of the woman's social position to confirm the migration of a matriarchal culture seems ingenious rather than convincing, particularly when it involves a concept of the Athabaskans, of all peoples, as bearers of this matriarchate. A theory that the dog-husband idea diffused from a single source would not seem susceptible of either proof or disproof on the basis of this material. But in any case the idea might be assumed to have spread without necessitating anything so drastic as the migration of a matriarchal culture to carry it.

MARGARET WELPLEY

Shamanism and the Fight Against It. I. M. SUSLOV. (Sovietsky Siever v 3-4, pp. 89-151, ill. Leningrad: 1931.)

The "Sovietisation" of the Far North encounters a considerable obstacle, in the opinion of the author, in the powerful influence of shamanism. The local "nobility" and richer elements of the population have a powerful ally in the Shaman. Consequently

the fight against shamanism should be part of the class struggle program in the Far-North.

Classifying shamanism as religion based on animistic conceptions, which he regards as typical for peoples of hunting and animal-breeding stages of culture, the author postulates that

shamanism, as every religion, strengthens the submission and exploitation of the working class.

A knowledge of shamanism he believes is essential for the fight which must be waged against it. Some forty pages are devoted to examples of shamanistic conceptions and practices of the Siberian tribes of the Far North, taken mostly from the author's personal field experiences. The "professional" side of shamanism is stressed, and emphasis is also given to the payment and personal gain derived by the shaman. An analysis and critique of the opinions of different authors as to the origin and the causes of shamanism are given. This part is perhaps the most interesting of all to the student of Siberian ethnology, for in spite of the definitely pronounced ideology of the author, the material cited by him is of unusual interest.

Next follows an outline of the campaign against shamanism. Criticizing the rude (and therefore ineffective) methods of the Tzar's missionaries, the author offers the antireligious propaganda as a better means of approach. He maintains that this method will expose

the social and economic roots of shamanism, . . . its reactionary rôle both for the past and the present and will prove that in a socialistic society shamanism, like other forms of religion, is doomed to inevitable death.

The organizing of groups of "fighting godless units," composed of individuals who have the confidence of the population, to conduct meetings and discussions in which they will expose by actual examples, the "false and harmful doctrines of shamanism" is the method of active Soviet construction work in the Far North. These groups are to submit to the Central Bureau of Anti-religious Propaganda a complete census of all shamans, giving their activities, classes, social origins, etc. Similar activities are to be carried on through the medium of schools, literature, and local organizations.

The Institute of Northern Tribes in Leningrad will undoubtedly have its share in these activities, and one can hardly doubt that within a couple of decades the shamanism of Siberia, unfortunately as yet little known, will be one of those institutions, the disappearance of which causes a "born too late but eager to know" anthropologist to sigh in compassion.

EUGENE A. GOLOMSHTOK

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DISCUSSION AND CORRESPONDENCE

THE LINGUISTIC CLASSIFICATION OF TÊTE DE BOULE¹

Dr. Cooper in the *Festschrift* P. W. Schmidt, page 206, says that northern Tête de Boule is definitely Cree;² without however giving any proofs; a little later Dr. Davidson, AA, 30, pages 20, 21 without discussing or citing Dr. Cooper's statement, says

Tête de Boule affiliated Algonquin-Ojibwa, for like the later they preserve the palatal stop before light vowels, in contrast to the Montagains-Naskapi.

I have gone over Dr. Cooper's manuscripts and have no hesitation in saying that he is right: the preservation of the palatal stop(s) before light vowels is not specifically Algonquin-Ojibwa, but occurs in most Algonquian languages, including Cree; on the other hand the phonology to be seen in Tête de Boule aski "land", skwâtem "door" (Ojibwa a'ki, ickwâdam), the correspondents to Proto-Algonquian *θ*, *hθ*, *'θ*, *'t*, etc., and a wealth of verbal-forms definitely bar Tête de Boule from being considered as belonging to Algonquin-Ojibwa, and specifically compel us to consider it as a Cree dialect, and an *r* dialect in particular. I hope to elaborate the above in the *International Journal of American Linguistics*.

TRUMAN MICHELSON

A NEW JOURNAL OF ARCHAEOLOGY: REVISTA DEL MUSEO NACIONAL, LIMA, PERU

Those students of Andean archaeology and ethnology who were dismayed at the passing of the quarterly *Inca* some eight years ago will find this new journal a worthy successor. The first two numbers contain careful studies such as: *El personaje mítico de Pucara*, and *El Gato de Agua* by Sr. Luis E. Valcarel (director of the Museum); *Las falcónidas en el arte y en las creencias de los antiguos peruanos* by Sr. Eugenio Yacovleff; and *Una exploración en Cerro Colorado* by Yacovleff, Muelle, O'Neale, and Weiss. This last is an admirable account of the unusual and important finds which have been made in recent years at Paracas, just south of the valley of Pisco. Both the authors and editors are to be congratulated on the number and quality of the illustrations which amplify the text. In introducing the series the editors state explicitly their feeling that only through an understanding of the general problems of South American archaeology can those of Peru be solved; that the time has come to internationalize archaeological work in Peru. There is recognition of the value of cooperation comparable to that obtaining between the gov-

¹ Printed by Courtesy of the Smithsonian Institution.

² See also p. 459, vol. II of *Atti del XXII Congresso Internaz. degli Americanisti* (Roma, Settembre 1926), Roma, 1928.

ernment of Mexico and the foreign institutions engaged in archaeological work in that country. This attitude sounds a new note in Peruvian archaeology. A long life to the *Revista del Museo Nacional del Peru*!

RONALD L. OLSON

MESAWI'KA, AND FOX SOCIOLOGY

The Fox word *mesawi'ka* occurs in Jones's Fox Texts at 312.23, for which *mesawi'k* at 312.17 is an error; the vocative (*mesawi'ke*) occurs at 92.18, 304.19, 314.4. The translation invariably is "brother," and implies an actual blood-brother. I regret to say that the translation is erroneous. Fundamentally *mesawi'ka* (*me-'sawi'ka'* in my transcription) means "turtle" and is not a kinship term. It is, however, used for "cousin" (excluding the descendants of a maternal uncle; presumably also descendants of father's sister; my notes are none too clear and partly contradictory) in the English sense, with the restriction that the vocative can only be addressed to a cousin who is of the same sex as the speaker; and the possessive form *neme'sawi'kem^m'a'*, "my cousin," will be only used as applied to a person of the same sex as the speaker. In my unpublished Fox mythology I find a variant to second tale of Dr. Jones; but this variant has nothing of the "brother" incident. Consequently I do not know how *mesawi'ka*, etc. came to be mistranslated by Jones; and in his Texts the context shows a blood-brother is meant. I have a faint recollection that a Fox Indian explained how *mesawi'ka* "turtle" came to be used as a kinship term: it was in contrast to *meci'ka'a* (*me'ci'ka'a'*), "snapping turtle," i.e., alike but different. The reason this note is printed in the *AMERICAN ANTHROPOLOGIST* rather than a journal devoted to linguistics is because we read in Briffault's *The Mothers*, vol. i, p. 645

and from the traditional tales of the Fox Indians we learn that among them it was customary for brothers to share their elder brother's wives.

References are given to Jones's Fox Texts which clearly show the passages cited above are in mind; the citations are naturally to the pages of the English translations, but that to page 213 is evidently a slip. Naturally Briffault can not be held responsible for not knowing the error in Jones's translation. But even had Jones been correct in his translation the first tale would not warrant Briffault's interpretation, the second possibly, not necessarily. My impression is that even in recent times there have been a very few cases among the Fox where a brother has committed adultery with his brother's wife, and one or two cases where one brother has openly taken away his brother's wife. Still, even in our own society such irregularities occur; and the cases among the Fox which I have in mind are so exceptional, and so abhorrent to them, that I do not think they can be considered as a support to the belief in prior fraternal polyandry.

TRUMAN MICHELSON

February 8, 1933

TO THE EDITOR, AMERICAN ANTHROPOLOGIST:

May we, through your columns, draw the attention of your readers to the Eighth Seminar in Mexico which meets July 8th to July 28th, 1933.

The Seminar is held under the auspices of the Committee on Cultural Relations with Latin America and provides opportunity for study of the life and culture of the Mexican people. The Seminar, with eight years experience behind it, offers a three weeks' program of lectures, round tables and field trips—all planned to give a comprehensive and non-propagandist introduction to Mexico.

The program gives distinct advantages to those interested in fields of economics, international relations, the arts, education, and archaeology.

The Seminar is subdivided into small groups under the leadership of such men and women as Judge Florence E. Allen, Dr. Charles W. Hackett, Count Rene d'Harnoncourt, Dr. Sylvanus Morley, Professor Alfonso Caso, Dr. Moises Saenz, Lic. Ramon Beteta, Elizabeth Wallace, Dr. Chester Lloyd Jones. Field trips are planned to many places of interest within a radius of 100 miles of Mexico City,—Puebla, San Juan Teotihuacan, Tasco, Xochimilco and Oaxtepec.

The first ten days of the program is conducted in Cuernavaca, a unique background for unhurried and thoughtful discussion. The second ten days is spent in Mexico City.

The Seminar is followed by three weeks of optional trips to the States of Michoacan and Oaxaca and to the village of Tasco.

Applications and requests for additional information should be addressed to

HUBERT C. HERRING, DIRECTOR
112 East 19th Street, New York, N. Y.

NOTES AND NEWS

THE NATIONAL RESEARCH COUNCIL, through its Division of Anthropology and Psychology, called together a group of individuals interested in the archaeology of the southern states at Birmingham, Alabama, December 18-20, 1932, to take part in a CONFERENCE ON SOUTHERN PREHISTORY. This meeting, held as one of the activities of the Committee on State Archaeological Surveys of the above Division, was devoted to a review and analysis of the known archaeological data of the region, and a discussion of methodological problems.

The first day was devoted to examination of an exhibition of Moundville material, a visit to the Moundville site, and to an evening discussion conducted by W. K. Moorehead and W. B. Jones on the cultural significance of Moundville.

Ralph Linton opened the second day's meeting with a statement on the Interest of Scientific Men in Southern Prehistory, and was followed by John R. Swanton speaking on Southern Indians of History, and M. W. Stirling on The Pre-historic Southern Indians. The archaeological problems of several states were discussed by their representatives: S. C. Dellinger, W. B. Jones, Henry B. Collins, Jr., W. M. Walker, C. K. Peacock, and J. E. Pearce. The evening was given over to an illustrated talk by Dr. Swanton on Ethnological Suggestions Regarding the Earlier History of the Southeast.

On the third day F.-C. Cole spoke on Exploration and Excavation, Neil M. Judd discussed Laboratory and Museum Work, and Clark Wissler spoke on Comparative Research and Publication. The afternoon was spent in an informal conference upon the subjects of the morning's talks, W. K. Moorehead, W. D. Strong, and William S. Webb acting as chairmen, respectively. The conference closed with a tribute to the early students of the prehistory of the region: Clark Wissler told of his impressions of Cyrus Thomas, and Neil Judd recalled incidents from his association with William H. Holmes.

The Conference, in which thirty-eight individuals took part, served to emphasize the close interrelations of the many problems of southern prehistory, and their significance in regard to similar problems of the neighboring areas.

THE AMERICAN SOCIETY FOR COMPARATIVE MUSICOLOGY, which held its first meeting February 13, at the New School for Social Research, New York City, and which is affiliated with the Gesellschaft zur Erforschung der Musik des Orients founded in Berlin, April 1930, announces as its aim and scope:

1. Establishment in New York of "Phonogrammic Archives" comparable to those in Berlin, Vienna, Paris, and Leningrad. This involves the collection (a) of selected existing commercial discs of various kinds, from authentic, traditional selections to all sorts of hybrids and experiments; (b) of copies of existing discs in various museums, universities and in private hands; (c) of transfers to permanent (hard surface) form of the best of the thousands of soft wax records now wearing away their short life in more or (often) less trained hands or lying forgotten upon dusty shelves.

2. Acquisition of funds for the employment of the few skilled field and laboratory workers we have and for the education, both musical and anthropological, of the many more that are needed.

3. The perfecting of apparatus, and the equipping and financing of field expeditions to all parts of the world.

4. Encouragement of the support of Comparative Musicology by a few leading universities.

5. Publication, including translation into English, of important works on comparative Musicology.

6. Bringing to America competent performers and teachers of the various non-European musics.

Regular members will pay three dollars annual dues, automatically acquiring membership in the Berlin Society, and receiving the *Vierteljahrschrift für Vergleichende Musikwissenschaft* which will contain articles in English, German, French, and Italian. Members will also receive at a discount such publications and discs as the Society may be able to offer.—Further information may be secured by addressing the Society at the New School for Social Research, 66 West 12th Street, New York City.

A SMITHSONIAN INSTITUTION EXPEDITION composed of Dr. William Duncan Strong, Bureau of American Ethnology, Alan Paine, research assistant in Mayan history and languages at Johns Hopkins, and Norman Haskell of New York, sailed on January 28 for Honduras. The party expects to spend four months in eastern Honduras along the Patuca river in search of ruins reported by natives and chicle hunters. The first report states that so far no indications of Maya culture have been found (*Science*, 77: 366, 1933).

MR. FRANK M. SETZLER, assistant curator of archaeology U. S. National Museum, left Washington February 18 for the Big Bend country in Texas. Mr. Setzler is continuing his investigations of caves in the Mule Ears peaks district in the Chisos mountains. Material from that section obtained during previous excavations has suggested a possible affiliation with the Basket Makers of the Pueblo area. Mr. Setzler hopes to obtain more definite evidence to aid in the determination of the proper place for the Big Bend cave-dwellers in the Southwest culture pattern.

THE GEOLOGICAL SURVEY, Ottawa, Canada announces the publication of the Annual Report of the National Museum for 1931 (Bulletin No. 70, 119 pp., 5 pls.) containing articles on Three Iroquois Wampum Records, by D. Jenness; the Ethnography of the Great Bear Lake Indians, by C. B. Osgood; and Five New Mammals from British Columbia, by R. M. Anderson.

DR. A. V. KIDDER, of the Carnegie Institution of Washington, lectured on Mayan Explorations and their Results before the American Philosophical Society at its annual meeting, April 21.

THE DISCOVERY OF POSSIBLY PLEISTOCENE ARTIFACTS at Dalton, Nebraska, has been announced by Science Service, following a report received by it from Drs. Earl H. Bell and William Van Royen of the University of Nebraska.

THE CORPORATION OF YALE UNIVERSITY has announced the award of a 1933-34 Bishop Museum Fellowship to Laura M. Thompson for ethnographic research in Fiji.

THE LABORATORY OF ANTHROPOLOGY, Santa Fe, awarded the following scholarships for summer research:

Linguistics: Philleo Nash, University of Chicago; George Bechtel and David G. Mandelbaum, Yale University.

Ethnology: Waldo R. Wedel, University of California, Gust G. Carlson, University of Michigan; Claiborne Lockett, University of Arizona; Edward A. Hoebel, Columbia University. First alternate, Philip Drucker, University of California, second alternate, John A. Noon, University of Pennsylvania.

Archaeology: Sidney J. Thomas, University of Texas; Erik K. Reed, Harvard University, Joe Finkelstein, University of Oklahoma; Harold E. Cooley, University of Minnesota. First alternate, Joseph P. Reath, University of Pennsylvania, second alternate, James N. Hadley, Columbia University.

DR. DOROTHY DEMETRAKOPOULOU addressed the New York Academy of Sciences Section of Anthropology meeting in conjunction with the American Ethnological Society March 27 on Wintu Songs.

JOHN COLLIER has been nominated by President Roosevelt as Commissioner of Indian Affairs. Harold L. Ickes, Secretary of the Interior, in making the announcement, stated:

John Collier will bring to the administration of the Bureau of Indian Affairs a wide knowledge of the subject based upon personal contacts and intensive study during the past several years. In my judgment, he is the best equipped man who has ever occupied that office.

THE NATIONAL MUSEUM OF CANADA announces two additional anthropological motion picture films—Nass River Indians, and Totem Land—and asks us to correct the statement in AA 35: 210, 211 that 16 mm. copies of films are available from the Ontario Government Motion Pictures Bureau: copies are available only from the National Museum.

BRONISLAW MALINOWSKI, professor of anthropology in the University of London, presented three lectures on The Family and Marriage at Northwestern University April 3, 4, and 5. During March Professor Malinowski gave a series of lectures under the auspices of the Messenger Foundation at Cornell University, on The Development of Culture: an Enquiry into the Function, Origins and Evolution of Human Beliefs, Customs and Social Organization.

GERARD FOWKE, archaeologist and geologist, and author of the *Archaeological History of Ohio*, is reported by *Museum Echoes* to have died in Madison, Indiana, March 5. He was born in Charleston Bottom, Mason County, Kentucky, June 25, 1855. A full sketch of his life and an extended bibliography of his works was published in the *Ohio Archaeological and Historical Quarterly* for April, 1925.

WALTER EDMUND ROTH, curator of the British Guiana Museum, and the honorary member of the American Anthropological Association, died on April 6 at the age of seventy-two years.

ZELIA C. NUTTALL, archaeologist, died at the age of 74 at her home in Mexico City on April 12.—An obituary of Mrs. Nuttall will be published in the next issue of the *Anthropologist*.

WILLIAM HENRY HOLMES, former chief of the Bureau of American Ethnology, and director of the National Gallery of Art until his retirement last June, died on April 20 at the age of eighty-six years.

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NEW SERIES

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THE MAYA CORRELATION PROBLEM TODAY

By LAWRENCE ROYS

THE PROBLEM

WHAT is our Christian equivalent for the Maya date 9.16.4.10.8? This is the query which many scholars are trying to answer, and which has come to be known as the "correlation problem." In their Long Count, the Mayas computed their dates from a hypothetical zero point roughly estimated at some five thousand years in the past, while we reckon time from a zero which is fixed at 1933 years ago. We can put the question in a different form, and ask: What is the interval of time which separated these two zero points? To answer this question and to properly interpret many important phases of American anthropology, it is desirable to determine accurately the exact relationship between these two systems of recording time positions.¹

Maya manuscripts written after the Conquest give a number of instances where the same event is recorded in both these systems of reckoning; and such records would seem to answer our question easily. However this is not the case. Unfortunately the evidence contained within this same group of manuscripts is so obscure and contradictory that different scholars have been able to obtain different solutions, depending upon what source material was selected for their premises, and how they explained or corrected the errors of compilers and copyists. At present, two solutions are being put forward actively, and both of them use the method just described in support of their solutions, with results that differ by nearly 260 years.

¹ The reader will find a convenient outline of the Maya calendar system in any one of the following publications:

Chas. P. Bowditch, *The Numeration, Calendar Systems, and Astronomical Knowledge of the Mayas*, 1910

S. G. Morley, *Introduction to the Study of Maya Hieroglyphs*, BAE-B 57, 1915.

H. J. Spinden, *Reduction of Mayan Dates*, PM-P 6, No. 4, 1924.

J. E. Teeple, *Maya Astronomy*, Carnegie Institution, Washington, D.C., 1930.

Also later in this paper, the reader will find definitions of the terms used here.

To broaden the interest in the problem the writer will review the situation as it now stands, attempting to cover it by outlining and discussing the following topics:

- (a) The method used by Spinden in deducing the correlation named after him; the method now used to support the correlation first proposed by Goodman; and a critical comment regarding these methods.
- (b) The astronomical method of obtaining or corroborating a correlation.
- (c) A review of Spinden's publications.
- (d) The "Supplementary Series" and Teeple's work.
- (e) Review of the accepted Maya calendrical interpretations and a study of their validity.
- (f) Comparison between these fully accepted interpretations and the less accepted hypotheses, including the correlation problem.
- (g) A summary of the situation regarding this problem.

THE SPINDEN CORRELATION

Let us trace out the method used in making one of these solutions. The Book of Chilam Balam of the town of Tizimin² states that the coming of the foreigners to Yucatan occurred *during* the Katun named 2 Ahau. The native Chronicle of Chacxulubchen² says that a katun *ended* in 1517 A.D. and implies that it was the same Katun 2 Ahau. Bishop Landa records that the first Spanish-Maya contact occurred *in the year* 1511 A.D. From these three statements it seems very probable that Katun 2 Ahau ended about 1517.

The Mayas had long since ceased to record a Long Count value for the katun position,³ but fortunately we know that the katun is named after its closing day of the tzolkin, in this case 2 Ahau. Furthermore 2 Ahau closes a katun only once in about 256 years.⁴ The Long Count dates of the Old Empire were accompanied by their Calendar Round positions, and from these Goodman outlined a perpetual calendar showing both the katun ending days, and their corresponding Calendar Round positions. From

² Both these references are post-Conquest town chronicles written in the Maya language in Latin script.

³ The Maya civilization which centered in the highlands of Guatemala is referred to as the "Old Empire." This ceased quite suddenly at some time previous to 900 A.D. and from its remnants sprang the "New Empire" civilization of Yucatan, a renaissance. The Long Count method of dating did not survive long in the New Empire, but the use of the Katun (of a little less than 20 years) was not discontinued.

⁴ This period of thirteen katuns, repeating perpetually, is used in the post-Conquest Maya chronicles in place of the Long Count. The Long Count position of any one of these thirteen katun periods can only be determined by inference from the context of the chronicles, and general anthropological analysis.

this calendar we will tabulate all historically probable dates where a katun ends with the tzolkin position 2 Ahau.

10.9.0.0.0	2 Ahau	13 Mac
11.2.0.0.0	2 Ahau	8 Zip
11.15.0.0.0	2 Ahau	8 Zac
12.8.0.0.0	2 Ahau	3 Pop
13.1.0.0.0	2 Ahau	3 Chen
13 14.0.0.0	2 Ahau	3 Kayab

This table covers a range of over 1200 years, but from the general historical outlines given in the Books of Chilam Balam, most scholars have discarded all but two adjacent values for the Katun 2 Ahau under consideration. These values are 11.15.0.0.0 2 Ahau whose month position is 8 Zac; and 12.8.0.0.0 2 Ahau whose month position is 3 Pop. The bulk of the post-Conquest evidence⁵ favors the latter value, so let us tentatively accept it, and for the moment discard all other values. In that case we have an approximate solution to our problem, accurate to within three to five years, 12.8.0.0.0 falling not far from 1517 A.D.

For greater accuracy we must link an exact Christian date with a Maya date, and we will proceed to do this. Bishop Landa leaves us the record of a specimen year which is believed to be Anno Domini 1553 Old Style. This gives the Maya Calendar Round date 12 Kan 2 Pop as the equivalent of July 16th. This matches the Maya tzolkin and haab to our months and days, and therefore matches the Maya Calendar Round to the Christian calendar. However it leaves us in the dark as to which 52 year Calendar Round falls opposite to the year 1553 A.D. The Long Count method of dating which would have answered this latter question had long dropped into complete disuse, so we will use the approximate solution just outlined to place this Calendar Round of Landa's time in its proper relation to the Long Count.

We have worked out the Long Count date 12.8.0.0.0, whose Calendar Round position is 2 Ahau 3 Pop. By referring to Goodman's calendrical tables we find that 13,504 days elapse from 2 Ahau 3 Pop to 12 Kan 2 Pop, the date mentioned by Landa. In other words July 16th, 1553 A.D. is 13,504 days later than the Long Count date 12.8.0.0.0; or July 16th, 1553 is the equivalent for 12.9.17.9.4, obtained by simple addition.

The preceding paragraphs summarize the method of proof and give the result obtained and now advocated by H. J. Spinden. Paraphrasing in simpler form the logical steps, we can say:

⁵ See S. G. Morley, *Inscriptions of Copan*, Appendix B. Carnegie Institution Washington, D.C., 1920.

(1) Thanks to statements found in three early manuscripts, it appears that a twenty year period named *Katun 2 Ahau* ended about 1517 A.D.

(2) Over a range of above 1200 years, only six of these twenty year periods bore the name *2 Ahau*; and, following Spinden, we discard all but the one which is supported by the majority of applicable evidence found in post-Conquest documents. This places the year 1517 A.D., closing *Katun 2 Ahau*, at 12.8.0.0.0 in the Maya Long Count

(3) The above train of evidence will carry us no further. To obtain accuracy to the very day we attack from a different angle using Landa's evidence that July 16th, 1553 corresponded to *12 Kan 2 Pop*. *12 Kan 2 Pop* is the 17,523d day of the Maya Calendar Round, a period 18,980 days long, or about 52 years (Subsequent to Old Empire times, individual Calendar Rounds were given no adequate calendrical identification)

(4) 12.8.0.0.0 (carried forward from Old Empire times with the corresponding Calendar Round position) fell on *2 Ahau 3 Pop* which is the 4,019th day of the Calendar Round. This is 13,504 days earlier than *12 Kan 2 Pop*, the equivalent of July 16th, 1553. Adding 13,504 days to 12.8.0.0.0 gives us the Maya Long Count date 12.9.17.9.4 falling on July 16th, 1553 A.D. Old Style

THE GOODMAN CORRELATION

While several of the post-Conquest documents seem to support the proof given, none of them are reliable above chance of error. Moreover the document that seems the clearest, the Chronicle of Oxcutzcab, gives evidence strongly in favor of the alternative solution which we tentatively discarded, namely, that based on the premise that the *Katun 2 Ahau*, during which occurred the first Spanish-Maya contact, was that whose ending date was 11.15.0.0.0 *2 Ahau 8 Zac*. This alternative solution was long ago suggested by Goodman, and only recently revived by Juan Martinez Hernandez in 1926, and by J. Eric Thompson in 1927.⁶

We can use Landa's record that *12 Kan 2 Pop* fell on July 16th, 1553, A.D. in combination with the alternative premise that the day 11.15.0.0.0 *2 Ahau 8 Zac* ended a katun not far from 1517 A.D. As before, we refer to Goodman's tables and find that the interval from *2 Ahau 8 Zac* to *12 Kan 2 Pop* is 12,204 days. Therefore the Long Count date 11.16.13.16.4 (which is 12,204 days later than 11.15.0.0.0) falls on July 16th, 1553 O.S.⁷

⁶ See J. Eric Thompson, *A Correlation of the Mayan and Christian Calendars*, Field Museum of Natural History, Chicago, 1927.

⁷ The proponents of this correlation have selected other premises as a stronger proof than this, and get the same result within a day or two. We have selected the premises which were parallel to those used in the Spinden proof, in order to emphasize the similarity of computation for the two different results.

The difference between the two solutions is 94,900 days or about 260 years

Having given the possibilities of working out a correlation from post-Conquest material, it is now necessary to show the inherent weakness of all proof based on such material. By the end of the fifteenth century the Maya civilization was in a bad way. The old cities of the south had been long abandoned and forgotten, and the New Empire itself had been disrupted by civil wars and the introduction of Mexican mercenaries. The Spaniards found only the decayed remains of a former culture. In view of this it is very much to be questioned whether the Maya calendar of Spanish times was an unbroken continuation of the Old Empire Long Count, or whether there had been lacunae.⁸ If the ending days of the katuns of the New Empire did not fall on the dates computed for them in Goodman's tables, the evidence just given is worthless in both cases. We have just seen how a change in the month position gives a different combination which changes the correlation by nearly 260 years.

SOLUTIONS FROM THE INSCRIPTIONS ALONE

In consideration of the difficulties of a solution based on the double dating of these post-Columbian sources, attempts have been made to reach a solution based on classic Maya sources alone. The material consists of the inscriptions on the monuments, and the three pre-Columbian codices which have been preserved. The method of attack is astronomical. This attempt to solve an anthropological problem solely by means of the internal evidences of ancient astronomical records is one of the spectacular undertakings of modern research. A short review of this attempt cannot fail to be of interest.

Between 1910 and 1920, Robert W. Willson, Professor of Astronomy at Harvard, joined in the attack on the problem, and contributed the technique of a brilliant astronomical mind.⁹ There is an Eclipse Series in the Dresden Codex which consists of a series of intervals between possible eclipse dates. The intervals run 502, 1742, 1034, 1210, 1742, 1034, 1210, 1565, 1211 and 708 days, and had generally been considered to represent

⁸ The possibility of lacunae is not entirely speculative. We have evidence that they actually occurred. In Old Empire times, the first day of the 365 day haab necessarily fall on either Ik, Manik, Eb, or Caban which were day names in the 260 day tzolkin. In Conquest times, the first day of the haab (then called the "year-bearer") always fell on either Kan, Muluc, Ix, or Cauac (other day names in the tzolkin). The latter group occur in the tzolkin two days later than the former. In other words, a two day slip in the month position had occurred. This has been explained plausibly, but it cannot be said that the Maya calendar was never disturbed; and it does not seem over-conservative to bear in mind the possibility of other lacunae of which we have no evidence. See Morley, *Inscriptions of Copan*, Appendix II, pp. 511-524.

⁹ R. W. Wilson, *Astronomical Notes on the Maya Codices*, PM-P 6. No. 3, 1924.

some sort of perpetual calendar. Willson suggested that instead of being a typical pattern, it might be an actual record of solar eclipses, and to test this he tabulated some six hundred successive eclipses of the sun, partial and total, that could have been seen in Yucatan. Unfortunately the series of intervals given above was not duplicated in this long historical series, and Willson's point was not proven. However, the possibilities of this general astronomical method for investigation were emphasized to such an extent that no correlation theory will now be considered which is not subjected to some variation of this method as a check. It is interesting to note that had Willson been able to match his series as suggested, we probably would already have the solution of our problem beyond doubt.

THE "MAYA DAY" COUNT

Willson also greatly simplified the method of stating the correlation problem. Previously it had been expressed more or less in the form suggested by the opening sentence of this paper. This astronomer reduced the Maya Long Count to days; and instead of our usual Christian dates he used the Julian Day count of modern astronomers. Thus we have the Maya Day count from an unknown point of departure, and the Julian Day count from a known point of departure, viz. January 1st, 4713 B.C. He called the difference between these two numbers "the Ahau equation," and established a tentative value of 438,906 days which fits fairly plausibly with certain of the astronomical interpretations which he made from the Maya codices and inscriptions.¹⁰ He reckoned without knowing what the so-called "Supplementary Series" would yield when solved, and the present accepted solutions of this Series seem to disprove his particular value for the Ahau equation just recorded—at least no contemporary Maya scholar is at present supporting this correlation.

"THE REDUCTION OF MAYAN DATES"

This publication by H. J. Spinden appeared in 1924. The work covers 286 pages and may be said to contain two classes of material. Parts 1 and 2 end at page 74 and consist of a very constructive résumé of the hieroglyphic calendars, together with many of Willson's suggestions and other valuable material. With this as groundwork, the balance of the book is devoted to the development of its author's correlation. His argument runs along the following lines:

1. The Maya dates in the records of Spanish times are based upon the Old Empire calendar continued without a break.

¹⁰ Spinden gives the "Ahau equation" value as 489,384 days. The Goodman correlation gives 584,284 days for this.

2. Landa's statement that July 16th, (1553 A.D.) fell on 12 Kan 2 Pop is accurate.

3. From these a sound correlation can be computed as has been shown.

4. The Eclipse Calendar, and the Venus Calendar of the Dresden Codex may be put into agreement with this correlation by assuming that they were originated in 613 B.C. and that the comparatively minute errors in their lengths accumulated to enough time to account for the difference between the dates given in the Dresden Codex and those computed by modern astronomers for certain eclipses and appearances of Venus occurring about 1100 years later. Spinden believes that the priests never corrected their original calendars, but constantly kept track of the accumulating errors.

5. The preceding steps offer sufficient proof of the correlation to justify linking numerous dates shown in the inscriptions with any historical astronomical occurrences which match them. Spinden interprets some dates as visible eclipses of the sun, some as eclipses of the sun invisible in Yucatan, some of the moon (both visible and invisible in Yucatan), some as solstices, some as equinoxes, some as appearances of Venus, etc. In some cases he shows identification glyphs and in others he does not.

Dr. Spinden is very positive that he has submitted data in absolute proof of his correlation, and the reader will have to judge whether this certainty is justified. There is a division of opinion among Americanists upon every one of the items just listed. It is the writer's personal belief that Spinden's initial thesis and his later papers on the subject¹¹ must be re-worked to a shape where the logic and the conclusions can be understood and checked without too laborious work by its readers before his hypothesis can be in a position to invite general acceptance.¹²

THE SUPPLEMENTARY SERIES

A most interesting contribution has been made to the astronomical material through the study of the so-called Supplementary Series, which is a series of eight glyphs that frequently follows the Initial Series date

¹¹ H. J. Spinden, *Maya Inscriptions Dealing with Venus and the Moon*, Buffalo Society of Natural Science, 1928. *Maya Dates and What they Reveal*, H. J. Spinden, Museum of Brooklyn Institute of Arts and Sciences, 1930.

¹² Since 1930, Dr. Spinden has been joined in active advocacy of this theory by Dr. H. Ludendorff. The latter has contributed a number of able monographs which bring actual astronomical phenomena of Maya times into agreement with the Spinden correlation. However, like Spinden, he has found it necessary to assume that the Mayas used various devices for correcting their calendars. His explanations are by no means impossible, and he contributes a valuable point of view, but it will require much research to determine whether the preponderance of evidence is in their favor. See H. Ludendorff, *Untersuchungen zur Astronomie der Maya*, Nos. 1 to 5, *Sitzungsberichte der Preussischen Akademie der Wissenschaften Phys.-Math. Klasse*, 1930-1.

of an inscription. In 1916, S. G. Morley published 80 of these Supplementary Series carefully drawn to the same scale and arranged in columnar form for easy comparison.^{12b} Morley noted that these contained lunar records, and identified Glyph A as showing the length of the lunar month—sometimes 29, and sometimes 30 days. Furthermore he forecast that glyphs C, D, and E would be interpreted as a calendar fixing lunar months in groups of five or six lunations each. No advance was made with this material until 1926 when the late John E. Teeple deduced from it a definite interpretation of the Glyphs C, D, and E just mentioned. He found that D and E combined represented the age of the moon in days—presumably from the last new moon.¹³ Here we find a formula susceptible of direct proof or disproof. If Teeple is right, we can reason as follows:

(a) On Stela 11, at Piedras Negras the date reads “9.15.0.0.0—the moon being ten days old.”

(b) We can subtract 10 days and get “9.14.19.17.10—the moon age being zero.”

(c) With 9.14.19.17.10 as a base we can proceed backward or forward by steps of 29.53 days (the average lunar month) and obtain new moon dates in terms of the Long Count at any point in the calendar.

(d) We can thus compute the value to be expected in any Supplementary Series whose Initial Series is known, and compare it with the actual reading of D and E as they appear on the stela.

Teeple tabulates 104 Supplementary Series from stelae where the Initial Series reading is fairly certain and the D-E combination can be read. In 98 cases the computed value of D-E comes within 3 days of the actual readings in the inscription, while 6 cases only are 4 days or more away from the computed dates. According to the laws of chance we shall expect to find¹⁴ out of 29.53 or 24% probability. Teeple actually gets 94%

^{12b} S. G. Morley, *The Supplementary Series in the Maya Inscriptions*, Holmes anniversary volume, pp. 366-396, Washington, D.C., 1916.

¹³ With this definite interpretation of D-E, Teeple demonstrated that the numerical coefficient of C was actually the number of lunar months which had elapsed since the commencement of the current lunar half year. Thus with C giving the elapsed months of 29 or 30 days each, and D-E giving the days, we have a complete lunar calendar added to our list of Maya time reckonings. Except for a period of some seventy years mentioned later, these lunar half-years were sometimes five months long and sometimes six. We have not found the key to the determination of their length, and we even have several instances of the same half year commencing with different months in different cities. The period during which all the cities agreed upon a uniform half-year of six lunar months will be discussed later.

¹⁴ A three day variation each way from the day of the new moon gives a range of seven days. Teeple considers a case as confirming his formula where the “age of the moon” given by the glyphs D-E falls within this seven day range.

of all the known cases to conform to his interpretation. In other words, wherever we have a Long Count Maya date we can compute from Teeple's formula the numerical coefficients which we may expect to find in Glyphs D-E of its corresponding Supplementary Series.

Teeple further deduces that the moon age is from the new moon rather than from full moon, and we quote his reasoning in full:

1. Bishop Landa, probably our chief authority in such matters in early Spanish times, states explicitly that the count was from the time when the new moon rises till it disappears.

2. It is the custom with most primitive peoples to make their count from new moon.

3. The Maya Venus count we know was from the time the new Venus appeared after conjunction with the sun, and by analogy we expect the moon count to be from new moon immediately after conjunction. Probably likewise the day began at sunrise.

4. There is a moon-eclipse table in the Dresden Codex, where the count is from eclipses, therefore from new or full moon; but internal evidence shows that the eclipses are solar, so the count must be from new moon.

Our conclusion then is that Glyphs D and E show the age of the moon counted from the last new moon.¹⁵

Teeple concludes that no correlation can be accepted which does not place a historical new moon at 9.14.19.17.10 as mentioned above and at 9.17.0.0.0, which is exactly 488 lunar months later. Dr. Spinden by his correlation places a new moon 10 days away from this date, and declines to grant Teeple's requisite on this point. Spinden accepts the interpretation of D-E as the "age" of the moon, but believes it to be from full moon, and reconciles his own correlation by presenting the hypothesis that this lunar count is an uncorrected formal calendar, in other words that it is a little out of timing with the actual facts.¹⁶

¹⁵ See J. E. Teeple, *Maya Astronomy*, p. 49. *Ibid.*, for other references to Teeple.

¹⁶ Dr. C. E. Guthe studied this controversial matter at length and reported upon it in his vice-presidential address before the Anthropol. Section, Am. Assn. Adv. Sc., New Orleans, Dec 29, 1931 (see *Science*, Mar. 11, 1932). He says "My general conclusions at the present time are: first, the Maya lunar month began at either new or full moon, but the data available at present does not permit the exclusive use of either phase for the beginning of the Maya lunar month as a premise in deducing conclusions regarding Maya astronomy; and second, it can be demonstrated that the numbers associated with glyphs E, D, C and A of the Supplementary Series of the inscriptions may have been obtained by the use of a computed lunar calendar, and need not, therefore, be records of current contemporaneous observations." His second reference is to Teeple's hypothesis that the Mayas recorded new moons as of the dates upon which they were actually observed. Discussion of the latter point cannot be covered here.

THE TESTING OF MAYA HYPOTHESES

In this review we have outlined some of the difficulties of the correlation problem, and shown how one prominent scholar puts forward a hypothesis which another pronounces impossible. At this point, the general student may well ask where the line can be drawn between debatable hypothesis such as the foregoing, and well substantiated theory that has proved workable to the point of general acceptance. Probably the best way to show this difference is to review the principal contributions toward the solution of the Maya hieroglyphs and very briefly analyze them.

Outstanding among the accomplishments of early peoples the world over are the several Maya calendar counts which are precise to the very day. We will list these and a number of allied calendrical and astronomical developments.

a. The 260 day Tzolkin (or tonalamatl) count may be given as comparable to our week in that each day had a different denotation. These denotations consisted of a number combined with a name instead of a single name word, but this fact need not destroy the analogy.

b. The Haab of 365 days (sometimes called "the vague year") consisted of 18 months of 20 days each plus a special month of 5 days. The Mayas never corrected the creep of the Haab on the tropical year (as we do by means of leap year) but they always kept track of this cumulative error.

c. The position of each day in a nine day period was considered of interest, and frequently included in the date. This nine day period is also analogous to our week. Glyph G of the Supplementary Series gives this position when it is included in a date record.¹⁷

Each of these three counts repeats itself in endless succession. The first two were in use as late as the eighteenth century. Most of their individual glyph forms are now identified, and for many years there has been no doubt as to their meaning.¹⁸ The third count was first recognized and brilliantly solved by J. Eric Thompson only in 1928. It is easily identified by position and form, and wherever Glyph G appears after a readable Initial Series, its computed value and actual reading agree almost invariably.

d. The Long Count gave the total count of the days from a mythological zero point which occurred previous to 3000 B.C. The names and values of the different time periods used in the Long Count are as follows:

Kin, the solar day, the unit of this calendar.

Uinal, period of 20 kins or days.

¹⁷ See J. Eric Thompson, AA 31: 223-231, 1929.

¹⁸ In combination, a and b form the Calendar Round of 18,980 days (about 52 years) which is the number of combinations that may be formed.

Tun, period of 18 uinals, or 360 days.

Katun, period of 20 tuns or 7,200 days.

Baktun, or Cycle, period of 20 katuns or 144,000 days.

As in our Arabic numeration, the higher periods are given first, and the units, the final position. This is the most important of all the Maya calendars, and was solved by Förstemann and Goodman independently between 1880 and 1890.

dd. The Initial Series glyph should be mentioned. It is an elaborate hieroglyph that precedes and identifies a Long Count date in the inscriptions on the monuments. Goodman identified the character and purpose of this glyph, but the meaning of variations in its central part have baffled decipherment until 1931, when Hermann Beyer found that these varied according to the Month in the Haab.¹⁹

e. The development by Morley of the extreme importance of the hotun, or 5 tun ending date in Maya chronological psychology. (Here we have a case of hypothesis reduced to accepted theory. Morley has piled up evidence until the matter is beyond doubt, and all our Maya scholars now use this theory frequently as a premise in their deductions.)

f. The Secondary Series is merely the expression of the distance between two dates. Here the order found in the Long Count calendar is reversed and the count runs kins, uinals, tuns, katuns, baktuns, etc. This order identifies it and very often the commencement and terminal dates can be found. There is no evidence leading one to question this interpretation, nor is it questioned. (In the codices we also find distance numbers without identification. There the meaning is often shown by the context and the order is normal rather than reversed.)

All of the preceding items are precise numerical counts. They can be recognized whenever they are met in the hieroglyphic texts by the form of certain glyphs or by position and arrangement, just as certain words, numerals and dates are recognizable in English. Furthermore their meanings are self-proving in that one part of a hieroglyphic text fulfills the prediction of another part of the same or some other text. In short, these are the basic mathematical conceptions for which the Maya culture has been celebrated.

By means of this knowledge of mathematics, the Mayas constructed almanacs recording or predicting periods of the moon, the planet Venus, and eclipses, and we list those whose interpretation appears to be proved.

g. The Lunar Calendar found in Glyphs D and E of the Supplementary Series has been already discussed. The method of lunar counting is proved beyond reasonable doubt. Its value is enhanced by the fact that it places the beginning of their lunar month accurately in the Long Count.

h. Teeple's solution of Glyph C of the same series for the 70 year Period of Uniformity from about 9.12.15.0.0 to 9.16.5.0.0. Teeple states as a formula that during

¹⁹ See H. Beyer, A 26: 99-108, 1931.

this period the Mayas maintained a lunar calendar of periods exactly six lunar months long. The months were numbered from one up to six and then repeated. We thus have in Glyphs C and D-E a complete lunar count giving the position of the day in the lunar month, and the month in the lunar half year. The validity of this theory rests on the fact that every Supplementary Series date over a period of 55 years in six different cities conforms to it. In this period there are 26 dates where the Initial Series is considered certain and the coefficient of Glyph C can be read, and we have 100% agreement. Before and after this Period of Uniformity, the meaning of Glyph C is similar but less definite.

i. The Eclipse Table of the Dresden Codex. This is a record or an almanac enabling the reader to determine the dates when eclipses are possible and reasonably probable. Some 33 years are covered by a table dividing this time into 69 intervals. Each division point represents a day when an eclipse is possible and there are nine grand divisions which locate a series of points where experience has shown that eclipses are not only possible, but to a considerable degree probable. Guthe worked out the final solution of this which is now generally accepted.²⁰

j. The Venus Table of the Dresden Codex. Here is a similar table forecasting the appearances of Venus as morning and evening star over a period of some 312 years. Forstemann solved this thirty years ago.

That these two extracts from the Dresden Codex are eclipse and Venus almanacs is not questioned. The schemes are quite intricate and the explanation of random coincidence would be absurd. This material is very valuable as showing the astronomical reasoning of the Mayas, but unfortunately none of the accompanying Maya dates establish beyond question the position of these tables in the Long Count.

This second group, g, h, i, and j are of astronomical significance and more complex than the first group. However, items g and h, like the first group, are recognizable in miscellaneous texts on the monuments, while i and j are long self-contained theses found in the Dresden Codex. All are self-proving in substantially the same way that the meanings of the first group are self-proving.

In the preceding review we have shown that the principal solutions of the hieroglyphic texts up to this time are able to stand these tests:

1. They can be recognized in the text itself without numerical computation.
2. Their interpretations perfectly match the complex pattern formed by several independent Maya calendars together with true almanacs of the moon, the planet Venus, and moon's node (which determines the eclipses of the sun and moon).
3. The demonstrations of all of these solutions are available in a reasonably simple form. Their authors have broken up the more complex problems into groups

²⁰ Carl E. Guthe, *A Possible Solution of the Number Series on Pages 51 to 58 of the Dresden Codex*. PM-P 6 no. 2, 1920.

of simpler problems so that each part may be judged on its merits by the general anthropologist.

THE CORRELATION PROBLEM IS YET UNSOLVED

When we look at the two solutions given for the correlation problem with these tests in mind, we do not feel that the demonstration of either of them is overwhelmingly conclusive. Teeple caustically remarked that by selecting desirable coincidences and intervals from the mass of Maya dates available, one can prove that the Mayas celebrated Washington's Birthday or Yom Kippur. The writer has found from personal experience in working with the inscriptions that there is much truth in this remark and is forced to the conclusion that no answer to the correlation question is yet established beyond the point of speculative hypothesis.

PROGRESS BEING MADE

In spite of this, it is not fair to close the matter without further comment. Much constructive work has been done that will fit into the pattern as soon as further material is discovered or developed, and some of this work is very promising. We can profitably review a number of these developments, and comment on their relation to the correlation problem.

a. As previously brought out, Teeple believed that the Mayas counted the moon age from the first appearance of the new moon. Spinden disagrees with this and is supported by Ludendorff, a German astronomer, who has recently entered the field of Maya research. This matter is extremely important because proof of it will allow us to accurately link the ancient Long Count with the true astronomical new moon positions of that time. The writer thinks that the evidence presented so far is favorable to Teeple's view, but this point is still debatable.

b. Teeple has suggested that the discovery of the "Period of Uniformity" for Glyph C is a very strong indication of political unity over this period. This further suggests closer cultural unity and gives a basic period during which it may be advantageous to construct standard groups of cultural phenomena with which earlier and later variations may be compared.

c. Spinden has developed the suggestion that the Maya month names were selected at a time when their literal meanings conformed to their position in the tropical²¹ year, e.g. Yaxkin may be interpreted as "New, Strong, or Green Sun," and he finds that at 7.0.0.0.0 the month Yaxkin fell about the last of April when the rains came. This line of reasoning opens interesting possibilities, but is not a proof in itself.

d. Spinden and others have found pairs of stelae or edifices that might have been used as astronomical sights analogous to sun dials for determining certain

²¹ The tropical year is the astronomical designation for our year of the seasons from spring equinox to spring equinox. Its length is 365.2422 days

points in the tropical year. This is a field of investigation that may prove fruitful, although it has many misleading possibilities.

e. Martinez has called attention to the fact that 4 baktuns cover a period which is nearly an exact multiple of the tropical year. This may throw light upon the formation of the Long Count and the selection of its zero point 4 Ahau 8 Cumhu.

f. Morley, Spinden and Teeple likewise have cited intervals of time too numerous to list which are found in Maya calendar combinations, and coincide with astronomical periods or their multiples. A separate critical study of these could well be made.

g. The Venus almanac described in item j page 414 has an error due to the discrepancy between the exact 584 day period used in the Dresden table, and the 583.92 day true average value. Teeple has explained very plausibly how the Mayas may have used this table in a way to eliminate this error. Ludendorff has published a monograph which attempts to show that it fits the Spinden correlation. Besides the above, at least one other method of effecting this reconciliation has been worked out, and this multiplicity of solutions suggests that it is not conclusive to use the Venus calendar as proof of any correlation except in a secondary way.

Enough has been cited to show the possibilities of further advance. The writer has also tried to show that it is possible to break the solution of the Maya hieroglyphs into many individual problems; and that it is not difficult to form judgment on these units. Very few of them involve reasoning of a highly technical character, and these few can be paraphrased so that the general student can understand and judge them.

These two itemized lists of factors in the Maya hieroglyphic scheme may also be used to emphasize the difference between accepted theory and constructive hypothesis. The thoroughly demonstrated character of the first group has been dwelt upon. The character of the items of the second group are so varied that it is not wise to generalize, but without further proof they hardly fall in the same class as the first group listed. Their final acceptance will depend upon the development of more evidence; and whether they will fit without straining into the patterns formed by the first group and by the astronomical events of Maya times.

SUMMARY

1. Two answers to the problem are before the public. Spinden places the typical Old Empire date 9.15.0.0.0 at Oct. 22nd 471 A.D.; while the advocates of the Goodman correlation place it within a day or two of Aug. 22nd 731 A.D.

2. Both these solutions were originally computed from post-Conquest material. If any breaks occurred in the Maya time counts between Old Empire and Spanish times, the computations for these solutions do not

hold good; and there is considerable chance that some such interruptions occurred.

3. Attempts are being made to solve the problem from the hieroglyphic texts alone by comparing numerical patterns of related dates found in the texts with time patterns formed by actual astronomical phenomena. Spinden believes that by this method per se, he has fully proved his correlation, but Teeple's solution and further interpretation of the Supplementary Series contradicts this and leaves the matter open to debate.

4. By analyzing the solutions of the Maya calendrical and astronomical systems which are generally accepted, certain tests can be devised which these accepted solutions successfully pass, and which other unaccepted hypotheses do not pass.

5. After comparing the demonstrations of the correlation solutions with the demonstrations of the solutions of the accepted calendrical and astronomical systems, it seems evident that the correlation problem is as yet unsolved.

6. In view of the complex nature of a solution of this problem, it is necessary that it be broken up into its elementary parts, and that these parts be handled separately. Only by clarity of handling and demonstration can useful advances in this problem be made. It is not only possible, but it is necessary that progress in this field be presented in such form that it can be understood and judged by the general anthropologist as well as the specialist.

825 TWENTY-SEVENTH STREET
MOLINE, ILLINOIS

IN THE biography of Napoleon "by the author of *Waverley*," published in 1827, we learn that at Ajaccio, his birthplace in Corsica, "an ominous plaything" of Napoleon's boyhood is still preserved and exhibited. The author continues,

We leave it to philosophers to inquire whether the future love of war was suggested by the accidental possession of such a toy; or whether the tendency of the mind dictated the selection of it; or lastly, whether the nature of the pastime, corresponding with the taste which chose it, may not have had each their action and reaction, and contributed between them to the formation of a character so warlike.

There are three horns to this dilemma. The Behaviorist would grasp the first, "the accidental possession"; the Geneticist, the second, "the tendency of the mind"; and the third may be left to the philosophers to whom Scott appealed, as I feel sure no other type of thinker can answer the question.

Napoleon's battles are history, but those waged between Environment and Heredity are still with us. Sides must be taken in this war in order to be "truly scientific." Little standing has the pacifist who proposes to watch the struggle from a safe distance, as I shall try to do. I am simply concerned at present with the discussion of the propaganda, mainly on the side of the Heredity which is to be gathered from Biography. I shall not attempt to prove that the genealogically inclined biographer is wrong. I hope to show, however, that the hunt for famous ancestors has no closed season and that the drive often has to be carried into distant fields.

In eight out of ten of all biographical works, from Plutarch to Maurois, the author, in his first chapter, feels impelled to find something in his subject's parentage on which to hang characteristics and aptitudes. Formerly, these were all favorable to the person whose portrait was being painted. Now fashion decrees that all deplorable traits should be excavated, the pathographical approach. Unlike Scott with his fairness, most authors raise no dilemmas—the cannon was there because one of Napoleon's ancestors was of a sanguinary disposition and he had put it there by some sort of blood-transfusion.

When the subject of a Memoir has had a distinguished ancestry, the author has an easy task. There is nothing more obvious than to have greatness thrust upon one by his forbears.

In a collection of Memoirs [writes W. Graham Robertson], the author always makes a start by gracefully recalling his ancestry, and I, anxious that all shall be set forth properly and in order, must bow to convention, but I could wish that my ancestors had been more thoughtful in leaving interesting traces of their existence.

The late Hideyo Noguchi, the famous Japanese bacteriologist who discovered the parasite of yellow fever, was the son of a peasant farmer. "But," a reviewer of his biography adds rather vaguely, "there had been heroes in the family in an earlier generation and he appears clearly to have been of an heroic mold."

Consider the vain searches which have been made to provide Shakespeare with some ancestral gleam foreshadowing his genius. One writer makes a determined effort when he says,

Shakespeare's father was at least extraordinarily *fond* of dramatic entertainments, if we may infer anything certain from the brief records of his mayoralty of Stratford; for he appears to have given the players the kind of welcome that Hamlet admonished Polonius to bestow upon them.

The biographers of Keats, of Franklin, and of Lincoln are hard pressed to find some eugenically qualifying ancestors. Franklin is fortunately provided with an uncle who seems to have borrowed books from a country squire. Franklin himself calls him "something of a lawyer." Kant was, after all, the son of a saddler, Keats, the son of the head ostler of the Swan & Hoop, and Carlyle, the son of a stone mason. The unrewarded researcher into ancestry may be forced to fall back on nurture rather than nature, environment which sometimes proves an ever-present help in trouble.

Few are as honest as Upham who writes,

When the whole career of Sir Henry Vane shall have been traced, and his principles, sentiments, and views fully presented, the reader will be inclined to regard with astonishment the fact that such a history was commenced, and such a character formed under circumstances so very unlikely to lead to them.

"Astonishment" then is the word when neither heredity nor environment can be made to play a part.

Trevelyan, recognizing the custom of the biographer, writes in his Macaulay,

The most devout believer in the doctrine of the transmission of family qualities will be content with tracing back descent through four generations, and all favorable hereditary influences, both intellectual and moral, are assured by a genealogy which derives from a Scotch manse.

In his John Bright, Trevelyan is more outspoken in his questioning the attribution of qualities to lineage;

There is no exact science of heredity [he writes], and nothing is more conjectural than the derivation of a great man's qualities of mind and heart. But it is the tradition of the Bright family that John inherited much from his mother.

He adds, significantly and truthfully, the other possibility, environment, when he says,

It is certain that he owed her much for the manner of his upbringing.

James Truslow Adams, in his study of *The Adams Family* raises about the same questions as those previously noted by Scott.

Was it due to some mysterious result from the combination of Adams and Boylston blood far beyond the ken of science even today; or to some unfathomable synchronism between the peculiar qualities of the Adamses and the whole social atmosphere of the next few generations, a subtle interplay of unknown forces; or to mere chance in a universe in which atoms rush and collide chaotically?

Seldom does an author suggest any such doubts, and almost never do we find a writer of a life, in dealing with questions of heredity, stating frankly, "fascinating as the problem, it is insoluble."

Washington Irving, in his life of Columbus, notes,

It does not appear that there had been any nobility in his family . . . nor is the fact material to his fame. It is certainly more honorable to his memory to be the object of contention among various noble families, than to be able to designate the most illustrious descent. His son, Fernando, who wrote his history, tacitly relinquishes all claims of the kind, pronouncing it better that his family should date its glory from the admiral, than look beyond him, to ascertain whether his predecessors had been ennobled, and had kept hawks and hound. "For I am of opinion," he adds, "that I should derive less dignity from any nobility of ancestry than from being the son of such a father."

Retroactive nobility is conferred upon the ancestors of those who achieve distinction, as well as upon their posterity.

John Jacob Astor, according to his latest biographer,

was the fifth child and fourth son of Jacob Astor, a butcher. It is said that the Astor family was of French Huguenot descent, and a genealogy, tracing its alleged origin back to a long line of French and Spanish nobles, is reproduced in an article written by William Waldorf Astor. However, Lathrop Withington, a genealogist, points out certain errors in the record. . . . His ancestors *may* have been of the nobility, there is nothing which positively indicates noble descent.

The "ambitiously elaborated" genealogy is often a "myth supported by vanity," a descendant of John Marshall states in the attempt to give John's grandfather an ancestor who came to England with the Conqueror.

The search for genius in the ancestral stream sometimes reaches extreme lengths. The biographer of Tchaikovsky writes,

Tracing back his pedigree, we do not find a single name connected with music. There is not one instance of a professional musician and only three can be considered amateurs. . . . All the rest of the family . . . not only lacked musical talent, but were indifferent to the art. Thus, it is impossible to ascertain from whom Peter Tchaikovsky inherited his genius, if, indeed, there can be any question of heredity. His one certain inheritance seems to have been an abnormally neurotic tendency which probably came to him through his grandfather, Assier, who suffered from epilepsy. If it is true, as a modern scientist asserts, that "genius" is merely an abnormal physical condition, then it is possible that Tchaikovsky may have inherited his musical gift, at the same time as his "nerves" from the Assier family.

Sometimes it is not the quality of the ancestral blood, but the color that seems to count. In speaking of the anti-slavery movement in New England, one author finds some excuse for two of the four leaders, one who was "born of country folk" and another "born of the poorer classes at Newburyport" as they

sprang from the lower classes of New England which never intimately understood its social superiors. A self-made man, however admirable, can rarely outgrow all the limitations of his origin.

But the same writer goes on,

No such excuses may be pleaded for the two other anti-slavery orators, [one of whom was born] of the oldest New England gentry [and the other] of a respectable family in Boston.

A blue-blooded ancestry is not accountable in an abolitionist, but lack of blue corpuscles may constitute an extenuating circumstance.

When one parent has ties of blood with the gentility and the other with the soil, the successful offspring is easily explained as in Beveridge's John Marshall,

When the gentle Randolph-Isham blood mingled with the sturdier currents of the common people, the result was a human product stronger, steadier, and abler than either. So, when Jane Randolph became the wife of Peter Jefferson, a man from the grass roots, the result was Thomas Jefferson. The union of a daughter of Mary Randolph with Thomas Marshall, a man of the soil and forests, produced John Marshall.

In a few minutes spent in turning over the pages of the first volume of the *American Dictionary of Biography*, I found the following under the "life of the painter, Edward A. Abbey."

To the father little of the son's ability may be traced. The paternal grandfather was a pioneer in the application of electro-typing printing and in the invention of the

internal exploding engine. Here we may suspect the origins of Edward A. Abbey's executive and mechanical capacity.

This cytological search for potential chromosomes takes many forms; they may be minutely catalogued through several and sometimes distant generations, from the immediate maternal or paternal ancestor, from the race or races of the parents, from the father's occupation, from the parents' religious faith, or from some other "carrier."

It is perhaps worthy of note that in this genealogical scrutiny the father's line of descent assumes first importance. A kind of primogeniture of traits is sought. Often the maternal line comes into the discussion only as a court of last resort.

I must really try to put some little interest into my mother's side of the family [writes a modern autobiographer]. I know next to nothing about it, but with a little ingenuity, much may be accomplished. I take up a musty old book on Geomancy and Ceremonial Magic—fascinating objects—and therein I came across a long-ago John Greatraikes, possessor of the Healing Touch, miracle worker by the laying on of hands, altogether an ancestor to my mind; and as the name Greatorex was my mother's and is uncommon, and as John seems to be unclaimed, I do not see why he should *not* be my ancestor; in fact, I have installed him permanently as such and have developed quite an affection for my forbear, dear old John Greatraikes.

This, it seems to me, is the only correct attitude to take towards this subject of heredity at the present time.

Predestination comes into every study of Byron, and probably correctly so, although science cannot be called in to prove it.

These two unhappy children [writes one of his biographers], half-brother and sister, represent the sorrows of their line to some purpose. They overshadowed them, black-winged, and when we understand better the problems of life and death, we shall know what the Greeks spoke of the inexorable dooming of the Three Sisters. They meant in one word, Heredity.

A difficulty is encountered when there are several children and only one is of outstanding position. A second wife sometimes comes in to help. A biographer of Webster easily settles the dilemma by writing,

The father, old Ebenezer, has, we we shall see, his points, but it was Abigail Eastman who put into the Webster blood something that made it yield power. The first wife's five children, and the first three of the second wife's offspring (so strong, apparently, was the Websterian influence) amounted to nothing. Then . . . came Daniel Webster. Old Ebenezer finished off his second family with a daughter, who, fashioned after the Webster pattern, was just "one of the crowd."

The author admits that if the first wife had not died, there might have been a Daniel, but he

would have lacked half the ingredients that made up the man who looms so large in American history.

Still another obstacle is met when a great man, like the wicked and slothful servant, hides his talent in the earth rather than putting it out at interest in his offspring. A modern biographer of the Hohenzollerns writes,

It is told that when Napoleon met various nephews and successors of the great Frederick on a hunting expedition, and, in particular, had enjoyed a very thorough dose of the company of that monosyllabic simpleton, Frederick William III, he remarked to Murat, "How a genius ever found his way into that Hohenzollern family is, and remains, an eternally impenetrable mystery of creation!"

Silence usually covers the mediocre progeny of the great.

Racial psychology is a subject treated voluminously, but so far as I know, no scientific investigations of this problem have ever been successfully concluded. Yet a poetess writes depreciatingly in her autobiography that she received through her father an inheritance from the great English poets, and through her mother the dramatic and artistic gifts of the Slav race.

The elder Dumas was amorous on account of his African blood. Unfortunately, few of the noted lovers of history have Negro blood and some other explanation must be sought to explain undue ardor.

Differences in racial potentialities is not a modern idea. Seemingly, at one time in the early history of our country, the Dutch were under disfavor in some places as showing a lack of talent. Believers of this canard receive a reprimand from James Renwick who writes in *Spark's Library of American Biography*.

One of the former biographers of Rittenhouse has endeavored to account for his abilities, by supposing that he derived them by descent from his mother's side. In this he seems to have adopted the popular opinion, which denies to persons of pure Dutch descent any claim to talent of the higher order. This opinion is, however, no more than a prejudice, which any inquiry into the annals of our country might have dissipated.

Each race has its potential virtues and its striking characteristics. These differ from authority to authority and from century to century, but few hesitate to trace them in the racial blood stream. It was the great commander and pioneer in New France, Cadillac, who

had so many Spanish characteristics, the laughing irony, the quenchless ardor, the chivalry . . . that we suspect he must have had Spanish blood of the Pyrenees from his mother's side of the house.

This *post hoc propter hoc* reasoning comes in again and again in biography. Our hero seems French in some of his ways. Therefore, embryologically connected with France, he must be.

A famous biographer of Franklin ventures thus,

A conjecture has been made respecting the remoter origin of the family which deserves mention only because it derives probability from Benjamin Franklin's peculiar cast of character

He goes on to say that the name *may* be of French origin, hence the "French traits of character" in Franklin are satisfactorily accounted for—

That sprightliness of mind, that mixture of gayety and prudence, of fancy and good sense, has frequently resulted from the union of the two races. Our Franklin, then, may have inherited with his solid English traits an infusion in vivifying Celtic blood.

A passage in John Morley's Gladstone is only one of many which mentions qualities supposedly characteristic of Scotch hormones. Morley writes,

An illustrious opponent once described him by way of hitting his singular duality of disposition, as an ardent Italian in the custody of a Scotsman. It is easy to make too much of race, but when we are puzzled by Mr. Gladstone's seeming contrarieties of temperament, his union of impulse with caution, of passion with circumspection, of pride and fire with self-control, . . . we may perhaps find a sort of explanation in thinking of him as a highlander in the custody of a lowlander.

Continuing for a moment on the same racial strain, Woodrow Wilson's Scotch ancestry

made him magnificently confident in the conclusions to which his reasons led him . . . He, himself, was inclined to attribute the imaginative side of his nature to an Irish element in his origin.

Few of Wilson's many biographers fail to mention the Scotch characteristics.

This ethno-plasmatic point-of-view is excellently brought out in Prince Von Bülow's Memoirs where he nepotically contrasts the virtues associated with German blood in contrast with the brutality lurking in a Russian inheritance. In describing Count Witte, at one time "the most influential man in Russia," he writes,

The son of a Baltic German sergeant major who had migrated from the Baltic provinces to the Caucasus and there had married a Russian . . . Sergei Yulievitch

Witte had inherited from his grandfather a capacity for work, ambition to learn and to educate himself and to get on in life, and from his Russian mother that indispensable ruthlessness and, whenever it was needed, that brutality without which no success was ever possible in Russia.

These racial cytoplasm sometimes savagely turn upon one another. In a new life of Porfirio Diaz the author states that the moral collapse of Diaz had its source in his mestizo origin in the internal conflict between the Spanish and the Indian strains.

It will be remembered that a scandal wove itself around Horace Walpole's ancestry. Being born eleven years after his two brothers and being unlike them in tastes and appearance, a biographer made the suggestion that Horace was not the son of Sir Robert but "of one of his mother's admirers," Lord Hervey, whom he resembled physically and mentally. Austin Dobson who denies this vehemently states that, "No suspicion ever crossed the mind of Horace." One might add, "There's no art to find the mind's construction in the face."

Blood groups may in time establish some few facts of paternity, but the biographer is certainly on delicate ground when he attempts to erect a solid structure based on resemblances either physical or mental in which to house proof of extra-marital indiscretions.

A similar controversy occurred in England recently between Dean Inge and Lytton Strachey. The Dean casts doubt upon the paternity of Queen Elizabeth. Edward VI and his half-sister, Queen Mary, resemble their father, Henry VIII, but Elizabeth, according to the Dean, has no drop of Tudor blood; she "favors" her mother, thus she is a daughter of Anne, but not of Henry. This is new evidence for Anne's conviction and consequent decapitation. Strachey naturally objects to the Dean's thesis and points out that the question of facial difference was banished by the resemblance in character of Elizabeth and her father.

The testimony of Green in his *Short History of the English People* again refutes the Dean's contention as he painstakingly assigns various dispositions of Elizabeth to each parent.

Her moral temper recalled in its strange contrasts the mixed blood within her veins. She was at once the daughter of Henry and of Anne Boleyn. From her father she inherited her frank and hearty address, her love of popularity and of free intercourse with the people, her dauntless courage, and her amazing self-confidence. Her harsh, man-like voice, her impetuous will, her pride, her furious outbursts of anger, came to her with her Tudor blood. . . . But strangely in contrast with the violent outlines of her Tudor temper stood the sensuous, self-indulgent nature she derived from Anne Boleyn.

Religion often seems to show itself as a virulent factor in the hereditary matrix which may run on for generations. One Thomas Bowman, in the American Dictionary of Biography, acquired a Scotch-Presbyterian gene from his mother and a Methodist gene from his father. A biographer of Wilson stresses "the hereditary taint" of teachers and ministers in his ancestry which made him want "to manage men as well as to instruct them." This religious thorn in the flesh may lose its pointedness, as in the case of Theodore Roosevelt. His "grandmother," according to a biographer, "on his father's side, was a Pennsylvania Quaker; but the religious strain in the stock was already thin, and by the time Roosevelt came in for his quota, it had almost lost its potency."

We usually hear little mention of a hero who, after close exposure to the proper germ of hereditary infection, fails to pick it up. Gamaliel Bradford, however, writes of Aaron Burr,

With Jonathan Edwards as his grandfather and the president of Princeton College as his father, he might seem to have inherited an almost suffocating odor of sanctity; but he soon lost it

I suggest the Princeton executive might well have quoted Junius in one of his letters,

I did not give you to posterity as a pattern to imitate, but as an example to deter.

There is more concern over the ease with which writers select virtues and qualities in themselves or in their subjects and lay them without question at the door of an ancestor. Woodrow Wilson, in a letter to his father, writes,

The hereditary wealth I possess, that capital of principle, of literary force and skill, of capacity for first hand thought . . . the benefit of being your son.

The connate parental virtues are very definitely allocated in the case of J. P. Morgan. He

inherited a divided personality. From the maternal strain he took a view of sentiment, of religious mysticism, even of poetry. From his father's line he took the love of power and the brutal energy which enabled him to grasp power.

Ludwig, in his Napoleon, continues in the same linear apportionment. He

had inherited [from his father] versatility and a vigorous imagination; from his mother came pride, courage, and accuracy; from both was derived his strong family feeling.

In the latest life of Mary Baker Eddy we have the opposed elements of her inheritance . . . the ultimate sources of the contradictory features in the religion which she founded The Abigail Ambrose in Mrs. Eddy gave birth to the radiant hopes of Christian Science, and the dark Earth-bound spirit of Mark Baker supplied the doctrine of malicious animal magnetism The inheritance of hopefulness from Abigail Ambrose was raised in Mary's more mercurial disposition to a tricky gayety.

Even occupations seem to carry with them germ plasms which are passed on from father to son. Mrs. Ruth Hanna McCormick inherited a "flair for Politics"; Richard Croker, born in Ireland, was the son of a veterinary; he acquired with his blood and race a passion for horses. President Eliot once said,

My father afterwards became interested in all public plantations, commons, etc. His grandson turned out a landscape architect by a distinct line of inheritance which, unfortunately skipped me.

The famous Egyptologist, Flinders Petrie, modestly claims little for himself, deriving his entire archaeological equipment from a most assorted collection of ancestral protoplasms from his mother, his father, to say nothing of two grandfathers, and a great-grandfather.

Looking back [he writes], I can now see how much I owe to my forbears; partly carried from my grandfather Petrie's handling of men and material, and his love of drawing; from my great-grandfather Mitton's business ways and banking; from three generations of Flinders surgeons' love of patching up bodies; from my grandfather Flinders' exquisitely precise surveys and his firm hold on his men; from my father's engineering, chemistry and draughtmanship, from my mother's love of history and knowledge of minerals.

The present William H. Vanderbilt, Jr., a state senator in Rhode Island, inherits

from his father's family an interest in transportation which he has modernized in the development of a motor bus system in Rhode Island and in participating in the directorship of several aviation corporations. From his mother, Mrs. Elsie French Fitzsimmons, the President of the National Republican Committee-Woman of Rhode Island, he seems to receive his political talents as she is a descendant of Amos Tuck of New Hampshire, one of the original organizers of the party in the ante-Civil War period.

Another quite different approach to life histories is that of the psychoanalyst. Less patience can be given to this type. Lincoln, for example, was a "schizoid-manic."

Two contrasting natures struggled within him, the inheritance from an untutored, roving, unstable father who treated him brutally; and from a cheerful, fine, affectionate mother from whom he claimed to have inherited his power of analysis, his logic, his mental activity, and his ambition.

You will remember that the second horn of Scott's dilemma was the possibility that the famous cannon might have been an "accidental possession." Thus, living with this death-dealing weapon as a toy produced Napoleon's war-like proclivities. Environment is seldom mentioned in our biographer's programme. As we have seen, it is utilized only when no vestige of a properly renowned protoplasm can be found.

A philosopher, writing of his wife, draws largely upon environment to furnish him with data on her character.

All the child's early years were passed in a tract of smiling country, where hills, woods, fertile fields, and the winding stream of the Susquehanna expressed the beauty and friendliness of nature with nothing of its savagery. These gracious influences became a rich endowment. Nature did for her what it did for Wordsworth's Lucy, imparted to her its mystery, its poise, its solitude, its rhythmic change, its freedom from haste and affectation.

In the life of Leonardo da Vinci, the author has this to say,

The melancholy pervading the ancestral marish park, with its copses, its pools, and its sea view, could not but affect his childhood

This might all be true if we knew that there were copses and pools in his garden.

Perhaps the most famous example in literature of the working of environment is in the chapter in Ruskin's *Modern Painters* entitled "The Two Boyhoods" where he contrasts "the mountains and the sea," the "world of mighty life," the "marble city" of Giorgione's youth and the "close-set block of houses" near Covent Garden where Turner was born. The "deep furrowed cabbage-leaves at the green-grocer's, magnificence of oranges in wheel-barrows round the corner." He continues,

Turner's foregrounds had always a succulent cluster or two of green-grocery at the corners. . . . He not only could endure, but enjoyed and looked for *litter* like Covent Garden wreck after the market. His pictures are often full of it from side to side.

A final example of environment I take from *The Education of Henry Adams*. He writes,

Mere accident of starting a twentieth century career from a nest of associations so colonial—so troglodytic—as the First Church, the Boston State House, Beacon Hill, John Hancock and John Adams, Mt. Vernon Street and Quincy, all crowding on ten pounds of unconscious babyhood

In my casual search in the literature of biography, I have found only two claims of pre-natal influence on the "somatick atoms." A writer on the life of Raymond Foulche-Delbosc, a leading Hispanist of the end of the last century, remarks,

The study of Spanish came after he had left school. This language was self-taught. His mother claims a pre-natal influence for his later vocation. She herself was studying Spanish during the time of her seclusion.

Before Frank Lloyd Wright, the architect, was born he notes, in his autobiography, that his mother had said he would follow this profession as she was enamored of buildings and she had taken the pains to hang on the walls of the room, which was to be his, pictures of the great English cathedrals.

The most "scientific" biography ever written is, I suppose, that of Francis Galton by Karl Pearson. Galton was a grandson of Erasmus Darwin, the poet-naturalist, and a half-cousin of Charles Darwin. His most famous work was *Heredity-Genius*, brilliant but questionable in its hypotheses. It was he who gave us the much abused term "Eugenics."

With the greatest care the author analyzes the chief physical characteristics of his fellow scientist, not omitting his "good looks," his ailments, and adds, to round out the picture, his "good digestion." These he sums up,

Thus we realize that in most of his physical characters, Francis Galton was not a Darwin. . . . It is to the mental characters we must turn for likeness.

The quest for Darwinian cytoplasm, not finding satisfactory results in the bodily features, falls back on the far more illusive mental qualities.

Under letters running from "a" to "m," he lists thirteen characteristics, among them being an even temper, ascetism, power of observation, love of adventure, much steadfastness of purpose, and mechanical ingenuity.

At the end he adds,

We believe that several of these features are markedly Darwin, but others just as certainly come from different strains.

This catalogue is accompanied by elaborate charts showing the genealogy on both sides of Galton's family. The author then proceeds to select the various ancestors, some going back several generations, who have given Galton the qualities listed:

Power of observation, the 'clinical instinct,' was essentially Darwin. . . . Some of the difference in Charles Darwin and Francis Galton was hereditary and marked the concentrated business instinct which Galton inherited from Farmers, and

Freames, Braines and Barclays, as well as from his own name-stock. In the roving lust again we see Cameron, Barclay, and Collier ancestry rather than Darwin. Steadfastness of purpose, may we not credit something of this to Robert Button and Jasper Batt with their many years of gaol experience? . . . For mechanical ingenuity, when did he derive this sense? In the first place, the business of an ironmaster and gunsmith cannot be developed by mere business capacity. We find, whether we turn to the Strutt and Arkwright, the Boulton and Watt, or the Wedgewood firms, that for success, mechanical ingenuity must supplement the business aptitude.

The only statement which cannot be challenged in this part of the book now follows:

Thus, as most men, Francis Galton was physically and mentally a blend of many ancestral traits.

I venture to assert it is the assignment of each trait to a definite line of ancestry wherein lies omniscience. This knowledge into the working of Providence shows again in the following:

What we do realize is that they [the traits] were not the product of his environment, whether of home, or school or college.

Kings College, London, and Trinity College have indeed sins of omission if this statement be true. The home, the school, and the college rather than heredity may have been at work on Francis Galton's brothers, as they were *not* famous. The "kaleidoscope of heredity" the author is willing to admit, is puzzling.

One final example will be given of the attributions of lineage. In this case I am using both the writings of a scientist and those of a propagandist for eugenics in the home.

We have all heard of the remarkable list of the descendants of Jonathan Edwards,

Twelve college presidents, 265 college graduates, 65 college professors, 60 physicians, 100 clergymen, 75 army officers, 60 prominent authors, 100 lawyers, 30 judges, 80 public officers—state governors, city mayors, and state officials, 3 congressmen, 2 United States senators, and 1 vice-president of the United States.

Jonathan's grandfather, Richard Edwards, had two wives, Elizabeth Tuthill (or Tuttle), and Mary Talcott. In speaking of the line leading from the first wife, one of our authors writes,

And now let us see how this legacy of God's wealth in blood or germ cells may enrich a creation with infinite usury. . . . All over America I have met her descendants. Many of them wear a gold badge known as the Tuthill emblem. It is a badge

of honor. Everywhere they hold places of distinction. . . . "The Blood of Greatness" is the only phrase that would properly describe such a pedigree. . . . Elizabeth Tuthill was a marvellous girl, nearly three hundred years ago at Hartford, Connecticut. She married Richard Edwards, a great lawyer. They had one son and four daughters. They have all left their mark upon American blood. . . . Later in life Richard Edwards married Mary Talcott. She was an ordinary, everyday, commonplace woman. She had ordinary, everyday commonplace children. The splendid heredity of Richard Edwards was swamped by the mating.

It is, then, this "marvellous girl," Elizabeth, whom we have to thank for all the college professors. The author is ready to admit that the factor of heredity may not have been

completely separated from the factor of environment. There can be little doubt [he adds] that some members of moderate ability attained distinguished positions through family influence

He rather spoils this probable truth by adding,

Finally, then, we see actually and literally, that from dogs to kings, from rats to college presidents, blood always tells.

But we are forgetting "the marvellous girl," Elizabeth. She is well worth our detailed attention. Parkes, in his new *Jonathan Edwards*, writing of the grandfather, says,

There was, however, a skeleton in the family cupboard. Richard Edwards, at the age of twenty, had been inveigled into marriage by a rich and attractive New Haven girl, Elizabeth Tuttle (or Tuthill), who within a few months, gave birth to a child whose paternity her husband disowned; after twenty years of marriage she seems to have become insane, for her husband secured a divorce; one of her sisters committed infanticide; and one of her brothers was hanged for murdering another sister. Timothy Edwards was her second child. One of Jonathan's sisters was distinctly queer and two of his nieces became confirmed opium-eaters; his own youngest son, born too late to be educated by him, was a clever and erratic Don Juan, and one of his grandsons was Aaron Burr,

whom we have met before. Jonathan's father was expelled from Harvard College, according to the quarter-bill book, and was assessed the heaviest fine recorded in this place.

Infanticide, soricide, sex delinquencies, insanity, the confirmed use of drugs, and Aaron Burr must be laid at Elizabeth's door. Let this "gold badge of honor" have a speaking likeness of the beautiful Elizabeth on the obverse, but I should like to write a truthful inscription for the reverse. Then let the proud wearers of this medal take heed that it is always worn face out.

Professor Jennings, in his new *Biological Basis of Human Behavior*, definitely states that there is no special gene for any capability. The infinite varieties of gene combinations may produce almost anything. Furthermore, on the *a priori* grounds, such as we have seen many of our biographers employing, he does not see how any mental traits can be with certainty derived either from a genetic or an environmental background.

From the days of Alexander, the Great, who Plutarch "allowed as certain" was a descendant of Heracles to the most modern of writers, the biographical pattern has remained fixed, the biologist has done little to alter this model and an anthropologist ventures to step in and suggest a more careful scrutiny of scientific facts in the writing of the lives of the great and the near-great.

CAMBRIDGE, MASSACHUSETTS

AS I EXPLAINED in an earlier publication,¹ the Crow Indians addressed prayers mainly, though not exclusively, to the Sun, who was likewise the chief recipient of offerings. The overshadowing importance of the Sun in Crow religion appears still more clearly when we recall that certain other beings who are invoked bear definite relations to him. Thus, Old Man Coyote, usually the Trickster of mythology, is at times confounded with the Sun, though sometimes he himself figures as praying to him.² Old-Woman's Grandchild, the favorite hero of folk-lore, is the Sun's son and ultimately transformed into a star, usually the Morning Star.³ The sacred Tobacco until recently planted by those duly initiated into its cult is likewise definitely associated with the stars. Some informants fail to specify a particular astral body, others speak of the Dipper, but the identification with the Morning Star also occurs, and in one version the Sun is credited with giving the Tobacco medicine to a poor faster.⁴ The sweat-lodge is conceived as, above all, an offering to the Sun; albino buffalo skins were invariably presented to him, as already noted by Maximilian; and the oath sworn when disputing or defending the claim to a war honor was addressed to the Sun.⁵ Most remarkable of all is the fact that in seeking a vision the faster almost always addressed the Sun, though it was understood that he would not as a rule come. There is a rare suggestion that the tutelaries who do appear were dispatched by the Sun, but most reports do not indicate this at all, and some explicitly indicate the independent power of the beings described in them.⁶

So far as prayer is concerned, the statement offered by One-blue-bead may give a hint of the essential attitude of these Indians:

The only thing I prayed to specially was my feather. I might pray to the Sun any time.⁷

That is to say, in the special circumstances associated with his revelation e.g., in One-blue-bead's case, whenever he went to battle, he would invoke his tutelary and his symbol. Outside this specific setting the Sun was the foremost supernatural one would turn to.

¹ R. H. Lowie, *The Religion of the Crow Indians*, AMNH-AP 25: 426 *sq.*, 1922.

² *Id.*, *Myths and Traditions of the Crow Indians*, AMNH-AP 25: 14*f.*, 25, 1918.

³ *Ibid.*, 52-74.

⁴ *Religion*, 177-189; *Myths*, 15.

⁵ *Id.*, *Social Life of the Crow Indians*, AMNH-AP 9: 239, 1912. *Myths*, 25.

⁶ *Religion*, 327, 329, 334.

⁷ *Ibid.*, 326.

During field work conducted in 1931 under the auspices of the Committee on American Indian Languages of the American Council of Learned Societies I was able to record some supplementary samples of Crow prayers, which are reproduced below with such comments as seem necessary.

I

In an unpublished narrative my informant, Holman, ascribed the following prayer to Andicico'pəc, whom some Indians credit with the introduction of the Sun Dance doll.⁸ He has been fasting, has just cut off a finger-joint, and is holding it out towards the Sun:

ma' 'sa'ka bi'ara'kam bi' watseckya' 't hin'e' ba'xu'ə k'o'
 Father's clansman, me you see, I am pitiable; this of my body that
 hawə'k' bara'kuk' du'ci. ba'sa' 'pe'c xaxu'a ambawa'wa' 'de
 it is a part, I give it you, eat it. Whatever things all easy things
 k'o' bi'i'kyuxa'ka waku' i' 'waxk'o'k'.
 those cause me to get by chance on my behalf, there it is.

[Free translation: Father's clansman, you see me, I am pitiable (in distress); this is a part of my body, I give it to you, eat it. Whatever easy things there are, let me secure them by good luck. There it is (the finger).]

Here the first word suffices to identify the power invoked, for this vocative form of a' 'sa'ke, his father's clansman, is not otherwise employed. Indeed, it was wrongly challenged by one interpreter in another prayer on the ground that a father's clansman would be addressed as axε', father.⁹ However, the Sun may be otherwise apostrophized—by his common name a'xace or as isa' 'ka xə'riə, Old Old-Man.¹⁰ Apart from this latter designation, Holman's first sentence is almost identical with the prayer dictated years ago by White-arm.¹¹

watseckya' 't is the diminutive form of watse'ci (= batse'ci), a word expressing literal poverty and, figuratively, a condition of distress likely to arouse supernatural compassion. Accordingly it constantly figures in supplication. Similarly frequent is the formal presentation of an offering with the words, "I give it to you," as when an albino buffalo skin is offered. Less common is the affirmation that the gift is a part of the pleader's body, but it recurs verbatim in the next prayer.

⁸ R. H. Lowie, *The Sun Dance of the Crow Indians*, AMNH-AP 16: 13, 1915.

⁹ *Social Life*, 208; *Religion*, 429.

¹⁰ *Social Life*, 239; *Religion*, 333, 427.

¹¹ *Religion*, 333.

The request that the Sun eat the flesh cut off seemed to demand further explanation. At my suggestion Mr. James Carpenter, my interpreter, secured a consensus of opinion among the older Indians. They virtually all agreed that the Sun was not expected actually to eat the flesh, but to accept the sacrifice as a token of the supplicant's sincerity. There are, however, mythological references to the eating of human flesh by the Sun and his wife, as in the story of a visit to the Sun and in an unpublished variant of the Old Woman's Grandchild tale.¹²

II

In 1931 Plenty-hawk narrated certain incidents in the early life of the late Medicine-crow, who is represented as going out to seek a vision in the company of friends. Facing the Sun at dawn, Medicine-crow is said to have uttered the following words:

axε' awe'n awatsi' i'kya, hin'e' bara'k'biawak' ma'xu'a k'o'
Father, on the Ground Badger look, this I want to give you, my body of

haw'ək' bara'k'biawak. hire'm bi'rapa'tsec ba'da'sarak'o't'u'a
that some part I want to give you. These my friends whatever they wish

a'ndi'o. kahe', hinde'ky bicε're. bi'watse'tsi, hinde'ky
may they do (?). Hallo, here it is a buffalo chip. Me make a chief, here it is,

axε'. [dapaxi'ky.] hinde'ky bawara'k'biawe c i'rəxk'o'k'
Father. [He cut it.] This is it I wanted to give it you, there it is

du'cikya'ta. kahe', karak'o'wi'ky.
eat it. Now then, this is all.

The Badger here figures as a representative of the Sun. The first sentence thus means: "Father, Badger of this earth, look" (i.e. listen): kahe' is the usual word used to direct attention to a significant statement. As in the preceding prayer, the Sun is asked to eat the flesh offered, but the addition of a diminutive -kya'ta to the verbal stem was severely criticized by other Indians because it would imply that the supplicant was pitying the Sun! Also, they said, the chopping must have preceded the lifting of the buffalo-chip with the joint on it.

III

Yellow-mule dictated a prayer connected with a medicine of bird-tail feathers that served as a protection against missiles. The owner would wear

¹² Mythology, 157.

the tail as a unit and tie loose feathers to his horse. The first to make this medicine was Bloodless Robe-back (isa'ce du'ri'risac), so nicknamed because too lazy to carry game on his back. His son, Wild-Onion (bi'txuac), inherited it and added to the medicine on the strength of individual dreams. He gave it to his brother-in-law, Yellow-crane, who passed it on to my informant, saying that the time for war had passed but that the medicine would bring luck in regard to property.

In opening the bundle, which Yellow-mule intended to do in the fall, the owner would make sweet-grass incense, make motions toward the four quarters, and utter these words:

hin'e' wa pe' i'tsikya ta di' a'k' hawac bawasa' wiawak'. hin'e'
 This day in safety you with around I run I want. This
 wa pe' di' wi'tsikyusa'wa wiawak'. wasa'cgε'rək' i'tsikya'tak u'pe'
 day you me on I put I want. My horses in safety the end
 a'waka t ba'wi'awək i riwa'tsiwaki 'ky. ba'ra'ka'reta
 I want to reach with, that is why I supplicate you Bad things not
 ba ka't bi'awək i'ri-wa'tsiwa'ki'ky.
 I want to come to that is why I supplicate you.

[Free translation: Today I want to run around with you in safety. Today I want to put you on my body. I want to reach the end in safety with my horses, that is why I supplicate you. I want to avoid bad things, that is why I supplicate you.]

When Yellow-mule dreams of his medicine, he adds another feather and prays:

hin'e' wa pe' hin'e' wa'aco di's'a wak'. hin'e' wa pe' hin'e' di'
 This day this feather I'll put on you. This day this you
 arak'usa'wεc itsi'rem be'wiawak'. ba'm be'wiawa'hak'
 what I put on a horse I want to own. Something I want to own
 i'ri-wa'tsiwaka'k' i'ri'ri'awək'.
 that is why I supplicate you that is why I make you.

He ties the new feather with the others, takes light red paint (u'k-ice), rubs all the feathers with it, burns incense, then paints his hair and body with the same paint, which represents his medicine, and prays:

hin'e' wa pe' di' wi'tsi kyusa'wak', ba'm ba'mbiky.
 This day you I put on myself, something I'll own forthwith.

Yellow-mule said he sometimes, indeed mostly, got something the very same day.

The word *tsiwaki* ' , to invoke, to supplicate, is a definite part of the religious vocabulary; its derivative *aratsiwaka* 'u, place of supplication, is used to designate a church.

It is obvious that in the act of addressing his medicine as he does there lies a personification, and the extra feathers added here constitute the offering in lieu of the flesh given to the Sun in connection with other prayers.

IV

Sweat-lodges (*awu'sua*) were originally ritualistic and even those who had the relevant privileges would, according to one informant, sweat only when prompted by a dream. On the other hand, tradition tells of a man who constantly erected sweat-lodges and was accordingly named *awu'c-da'kuc*, Sweats-regularly.¹³ In the construction of the *awu'sua* the Crow used willows numbering from twelve to one hundred. Plenty-hawk's prayer specifies lodges of 18, 14, 20, 100 willows, respectively.

i'ria axpi'rupaxpɛc di'awa wɪky. i'tsikya ta ba'rək ,
Poles 18 I'll make . In safety if I arrive,

am ibatso rɛ'rɛtək , di'awa wɪky. ba m a'kɛm
if I have no bad luck (disappointment), I'll do it . Something on top

ba'wɪky. a'x'a'cɛc, di'di' bara'k'uk' . baɛ' a'apɛ dɛ'əxdək , i'ria
I'll put . Sun , you I give it to you. The leaves when yellow, poles

axpi'co'pɛc di'awa wɪky. i'tsikya ta wa'rək , ba m a'kɛm
14 I'll make . Safely if I arrive, something on top

ma'wɪky. a'x'a'cɛc, di'ri wara'k'uk' .
I'll put . Sun , you I give to you.

bi'pɛ masa 'ka cɛ ba'rək , i'tsikya te ba'rək , i'ria
Snowfall the very first if I reach, safely if I reach, poles

axpi'rupaxpɛc di'awa wɪky. ba m a'kɛm ba'wɪky. a'x'a'cɛc, di'ri
18 I'll make . Something on top I'll put . Sun , you

wara'k'uk' .
I give to you.

baɛ' a'apɛ tari'arək , i'tsikya ta ba'rək , i'ria nu'pa'pirəkɛc
The leaves when they fall, safely if I reach, poles 20

di'awa wɪky. ba m a'kɛm ba'wɪky. a'x'a'cɛc, di'ri bara'k'uk' .
I'll make . Something on top I'll put . Sun , you I give it to you.

¹³ Religion, 428 ff.; Myths, 244 sq.

i'ria pirəkise'c, bi'awakusa'rək i'tse ba'rək', di'awa-wiky.
 Poles 100 , the spring safely if I reach, I'll make
 ba'm a'kəm ba'wiky. a'x a'cēc, di'ri wara'k'uk'.
 Something on top I'll put . Sun , you I give you.
 awu'c iəka'tec diawa'mbiky . hutci'riky bira'taxbu'a
 Sweat-lodge a small one I'll make forthwith. It is cold charcoal
 burupa'tbiky, ma'cdək k'o'mba-wiky. a'x a'cēc, di'ri warák'u k'.
 I'll sprinkle , when I die I'll stop. Sun , you I give it to.
 i't'a wa'ka'ku wi'awak', i'ri'awak' . aho' ! ba'wa'ka'ku
 Safely I live I want , that is why I make it. Thanks! I live
 wi'awak'. Apsa'rukēc a'tsipa' ru rək di' ri'awa-wiky. ba'isande'
 I want . The Crow if they multiply you I'll make it. "Sickness
 ha'mneti bāk; i'ri'awak' . kari'rəxk'otək'.
 may there be none" I say; that's why I do it. Thus it is

[Free translation: I'll make (a sweat-lodge) of 18 poles; I'll do it if I arrive in safety, if I have no disappointment. I'll put something on top: Sun, to *you* I give it. When the leaves are yellow, I'll make (a sweat-lodge of) 14 poles. If I arrive safely, I'll put something on top: Sun, to *you* I give it. If I reach the very first snowfall, I'll make (a sweat-lodge of) 18 poles. I'll put something on top: Sun, to *you* I give it. If I reach (the time) when the leaves fall, I'll make 20 poles. I'll put something on top: Sun, to *you* I give it. A hundred poles I'll make if I reach the spring in safety I'll put something on top: Sun, to *you* I give it. Forthwith I'll make a small sweat-lodge. When it is cold, I'll sprinkle charcoal, I'll never stop till I die. Sun, to *you* I give it. I want to live peaceably, that is why I make it. Thanks! I want to live (?). If the Crow multiply, I'll make it for you. "Of sickness may there be none," say I, that's why I do it. That is it.]

V

In the unpublished tale of Gun-hammer and Walks-toward-his-horses, dictated by Yellow-brow, the heroes inaugurate small sweat-lodges of twelve willows. The prayer is interesting in that here it is not the Sun that is apostrophized, but the Sweat-lodge itself, its ritualistic ingredients, and other beings. The personification of the fat and the willows is noteworthy.

kahe' awu'suəc iəka't'ec diawawara'k'bi'ruk' , be'c, hin'e'm
 Hallo, Sweat-lodge small, we are making it for you, I said, now
 k'andi'awak'. awaxa'we ari'rəcbice'c a'ce arisa'ta,
 I have made it. Mountains of renown (having names); Rivers Big ;

hec o'piukawe', a'ce ari'otec, ba'kukuta
 on the other hand smoke , Rivers Small; You Above in the heavens,
 ba'k'o'rec, o'pi; awawu'ta wa'k'o'rec, o'pi; awe'c, di, o'pikyawe';
 beings there, smoke; Beings in the Ground, smoke; Earth, you, smoke ;
 biri'tse'c, o'pi. a'apa(r)asi'a , a'ape araku'ke'c
 Willows , smoke. When the leaves appear, leaves their full size
 arahi'ac , a'pandæxec , a'ape aratar'ac awaku'kurita
 when they reach, when leaves are yellow, leaves when they fall, year after year
 awa'kabare'mbiawak'. i'ri'o'piwa 'tse'ky . kahε', ciwe'c,
 I want to keep on seeing. For this I make you smoke. Hallo, Fat ,
 bi's cos bare'ræk' ba'ira'pem k'o. bi i'kyuxabi'awak' .
 wherever (my face) I go something fat that I want to chance upon.
 bira'taxp'uac, bi'sco's bare'ræk bisa'chiäk' , i'tsikya'ta
 Charcoal , wherever I go may I blacken my face. safely
 bak'u'wiawak' . hutse'c arahu'ac di-co'pæt' , o'pi!
 I want to return. (Winds where they come you 4) You Four Quarters, smoke!
 bi's cos bare'ræk' hutse' wi's k'o' bi'awak', hutse' bi kyo'n
 Wherever I go the wind towards me there I want , winds me there
 de'tisa baku'!
 do not send for me!

[Free translation: Hallo, Small Sweat-Lodge, "We are making it for you," I said; now I have made it. Mountains of renown, Big Rivers, and Small Rivers, smoke. You Beings Above, smoke. Beings in the Ground, smoke. Earth, smoke. Willows, smoke. When the leaves appear, when the leaves are full-grown, when the leaves are yellow, when the leaves fall,—year after year I want to keep on seeing (these seasons). For this I offer smoke. Hallo, Fat, wherever I go, I want to chance upon something fat. Charcoal, wherever I go, may I blacken my face (in token of victory), safely I want to return. You, Winds of the Four Quarters, smoke! Wherever I go I want the wind towards me, wind do not send me there on my account (?)].

The suggestion of imitative magic is obvious notwithstanding the *form* of prayer. Because the supplicant wants to blacken his face with charcoal when he goes to war, charcoal is supposed to be used in the rite, etc.

My interpreter, James Carpenter, obtained the following explanation of the last sentence from Yellow-brow. "When I go to hunt (batse'-bare'ræk') or on the warpath I want to have no fear of being discovered. Animals are gifted by scent to know. War parties take warning when the

buffalo stampede and will be on the watch for some unseen danger that has caused the game to run." The second clause means: "Forbid the wind to blow from my direction to the buffalo when I hunt them or on my war travels."

VI

In the story of Tsi' sapuæc the hero leads a warparty but is continually annoyed by the captious criticisms and sneers of his brother, Large-inside. At last he loses patience and prays as follows:

hin'e' awu'sac bi' waku'pæk' hin e' o'tsiæ
 This Large-inside [to] me he is a blood brother [but] this night
 sa'pem ba i ri'cekyä'sa waka'wa ku
 something cause him to suffer greatly do it on my behalf. But
 ce 'wawiasak' tsira'k'ciræk' ba'kurutsi' wiky.
 I do not want to make him die, tomorrow I'll take him back.

[Free translation: This Large-inside is a blood-brother of mine, yet tonight for my sake cause him to suffer from great discomfort. But I do not wish to cause his death and will take him back tomorrow.]

Here it is not clear what power is addressed, though it is certainly a vision "father," but since the hero has been just previously painting his face miraculously by means of the Sun's blessing, it is a fair assumption that he is praying to this supernatural.

When another brother remonstrates, Tsi' sapuæc replies, "We have spoken, we can do nothing about it. Anyway, he will not die."

VII

In a historical narrative by Yellow-brow, a young warrior—one of a number designated to be especially brave in an impending engagement with the Cheyenne—sallies forth into the camp-circle on the eve of battle, wails and prays as follows:

ba'ammi ' wiræba'k k'o' ba'mbara'skawi'a ahu'k'
 Ever since I have been a person my causes for sorrow were many,
 bari'atæc k'o'ri'æc ba wi' 'ctsisä k'o'm . i' 'ctsisä
 I used to think, it turns out there was something in front of me. Before that (?)
 barase' kawi'wisak' mara 'xtæk' hin e wape' baci'ciahe
 I was sorrowing , I did not know today all sorts of things

i'warasxawi'kya:cikyawa
all my sorrows are coming to a head.

ba'su bi'e batsɛkya'tuwa bawa'kas hira k'e' Apsa'rukec
My home its women are in distress I daresay. Now the Crow

co'ot'at' a'k'urək' i ri'atək' ka'uwisak'. basu'aka't
how are they faring? they continue to think. My dear home,

batsɛkya'tuwa basba'watɛcgya'téc miraraxɛ'n
my poor dear ones, my people in distress, under the dripping water

bawa'tsi'gyak awa'tsi'gyak' andi'e'tse. ri'ək' a''kuwisak'.
he makes them sit he makes them sit he does to them as he pleases he continues.

i'rutət' ak'batse'rerak'. co'ot' ba:rək' i'wawatsɛcba wikyahe'?'
Them alone he deems men. What can I do so that I can distress him, perchance?

ba'k'ukure'ce, ak'ba'e''kyaratbicdək'
You above, if there be one who knows what goes on,

ambi:watseci'oc hin'e' wa'pe' kari'wice bak'u'. awɛ'awu'at'a
for the distress caused me today pay give me. Inside the earth,

ak'ba'e''kyaratbicdək' , ambi:watseci'oc kari'wice
if there be any one who knows what goes on, for the distress caused me pay

baku' . ak'ba'hi'ri sa'pdək' hira'k'e kambi wirəxba'k'e
give me. Whatever may cause things now I as a person

kari'tsiky. kambi'ce'gya bak'u' . bawara'sarakawi'a a'ka'cikya wa.
it is enough. Make me die for my sake. My sorrows are most plentiful.

ba'ka'tet' ba'iri'cikya'tut' k'o' ice' ditsira'ta'tseruk' . bi'e'ta
Even children timid as they are they die dangerously, it is said. Even women

ba'e'ricikya'tu ice'ritsiratdatse'iky . bi'wirəxba'k'e ci'ərək'
timid as they are you cause to die dangerously. I as a person if a long time

bari'atsisək'. bi'wirəxba'k'e ci'ərək' ba'm barasarakawi'a
I do not want. I a person if long my sorrows

a'ka'ci bari'atsisək' .
would be most abundant, I do not want it.

[Free translation: I used to think that since my birth I had had many sorrows. It turns out that there was something in store for me. I was grieving, but I did not know that today all manner of sorrow would be coming to a head.

The women at my home are miserable, I daresay. "How are the (captive) Crow faring?" they are continually thinking to themselves. My poor dear housemates,

my distressed kin, (the enemy) makes them sit under the dripping water, he is ever abusing them, he thinks his men are the only ones to be brave. What can I do to distress him, I wonder?

You Above, if there be one there who knows what is going on, repay me today for the distress I have suffered. Inside the Earth, if there be any one there who knows what is going on, repay me for the distress I have suffered. The One Who causes things, Whoever he be, I have now had my fill of life. Grant me death, my sorrows are over-abundant. Though children are timid, they die harsh deaths, it is said. Though women are timid, you make them die harsh deaths. I do not want to live long, were I to live long, my sorrows would be over-abundant. I do not want it.]

Double-Face is wailing for revenge because he cannot forget the sufferings of the Crow women taken captive. Especially, he recalls one whom the enemy made to climb a tall cottonwood tree that was then chopped down. She is supposed to have said at the time, "If Double-face and Plays-with-his-face could see me just now!"

In this outburst there is no more longing for earthly benefits. With a magnificent gesture the young hero sweeps away all thought of life, which has become unbearable and prays for only one thing - death.

The last two prayers cited illustrate another point. Predominant as the Sun's position is in the religious consciousness of these Indians, it is not an exclusive one. What is more, the supplementary powers are not only not necessarily identified with, or (like the Morning Star) somehow related to him; they are not identifiable with *any* preconceived mythological figure. The Willows, the Fat, adjured in Prayer V are personified *ad hoc* and supplicated in that context only. In Prayer VI "You Above" is conceivably another designation of the Sun, but what of the "One inside the Earth" and "The One who causes things, Whoever he be"? These are presumably "Augenblicksgötter" in Usener's sense of the term. The Indian probably has no conception of an impersonal all-pervading supernatural power, but he has the conception of supernatural power which potentially may be attached to any part of the cosmos. Thus, a transitory stimulation may lead to a momentary personification of the charcoal, the fat, the willows, all of which belong to the sphere of the sweat-lodge complex, become derivatively potent for the time being, and then relapse from the status of nonce-gods into that of inanimate objects devoid of extraordinary character. Similarly, the warrior uttering Prayer VI is filled with a vague sense of supernatural power in different parts of the cosmos and appeals to them in ephemeral personification in their hypothetical abodes.

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THE ORIGIN AND DEVELOPMENT OF METRICS

By WALTER HOUGH

THE use of measures is one of the characteristics of man demarking him from the animal implications of his early phases as a natural phenomenon. Acquirements of a long evolution in which a fitting to the laws upon which the world is built are seen in his conformities to the greater environments and his limited beginning use of the latitude allowed by nature. These conformities come down as instincts, many of which eventually become capable of metrical statement. There are thus things that in primordial times cannot be done and later in man's progress in the conquest of nature seem to present no limits of refinement and elaboration.

The early attempts at metrical statement form a most interesting phase of human history dealing with factors which have become of vital importance in the interpretation of the physical world and of human affairs. Comparatively the use of measures ranks with the "invention" of language, though these cannot be separated from the fabric of culture and held up as entities.

Gradually from the first gropings of culture, man expanded along lines that would be essential in the high advance of civilization. The process took thousands of years. Especially the growth of the ideas of measure is stressed here and necessarily theoretical deductions are advanced as to the earlier acquisition of these ideas.

It is recognized that after the long preparatory period we begin to see man using measures in a comparatively near past. The long course of human culture before what is called the awakening is perhaps normal. Emotions of pity or surprise at the scores of millenniums seemingly featureless appear to be unnecessary. This incubation over an enormous time had its advances important in their way and germane to the stage of culture as any recorded by the printing press. Commonly fire and language are selected from many other features, but until the flashing point was reached the great awakening could not be realized. The world of man was adequate at every period. The process was timeless.

It seems evident that the whole field of measures began with the proximal source, the freely moving divisions of the human body. The universal survival of folk measures based on rude standards derived from the human body renders it evidence that these are primitive applications of metrics and would be observed in the beginnings of culture.

AREA

One of the most obscure questions relating to measurements is the origin or the emergence of the idea of area. The first component of area seems to be length, which had early application as derived human measurements, that may be called practical, being derived from human experience. It is not likely that length in two directions enclosing space would be derived from such experience at an early period, in fact such a conception transcends the rough and ready measurements furnished by the body.

Area had no utility in primitive society. Any application must appear after a considerable development of society. Tribal boundaries appear to be an early phenomenon, but these followed natural features and involved no conception of amount of area. In art perhaps in the late Neolithic the equal arm or axial cross gives space figures enclosed in isosceles triangles, that is, when the third length is added forming a square.

If we consider art in which geometric forms are used we might suspect that the preliminary ground for area concept has been reached. Here is a field in which early artists had constant experience with apposed equal spaces within lines arranged for balance and rhythm, which are the foundation of geometry. The nexus, however, suggested between decorative art and geometry is highly speculative. The history of geometry is probably far more complex in its aggregation and relation of the basal figures in terms of measures and must be assigned to a rather high degree of culture.

The metrics that are the outgrowth of human proportions have general currency and show a gradual development of accuracy in their application. Their use is in the basic industries, especially those of clothing mankind. Evidently also they have not and perhaps never will reach the extreme differentiation of the ideas of length, area, and the like, discussed later. The wide prevalence of folk measures in some modern industries showing their recent derivation from house industries is an interesting observation.

The transfer of geometric art figures to geometry is apparently due to the development of agriculture and the consequent demarcation crudely of fields or areas worked by social units. Definite appearance of these measurements is seen in Mesopotamia and Egypt where geometry was employed, the defining unit being the arm section length or cubit. From this period, impossible to date, the history unfolds to the present, the fundamental geometric figures being interpreted by evolving scales of measurements.

WEIGHT

Conscious knowledge of relative weight would not be reduced to system until an advanced state of culture introduced a primitive apparatus in-

volving the balance idea. Obviously there would be little use of determination of weight in early society. Necessary limit of weight was sensed in the making of weapons. For instance, the massive Chellean ax must not be too heavy for the blow and the quick recovery.

A knowledge of the limits of weight must have come early when, for instance, a stone or the like was heavier than a man could move or lift. A realization of weight would also be frequent in the nebulous state called early society. With the possession of the spear a sense of balance would be fostered. With flotation in water balance is seen to be important and in several ways the discriminations of poise and balance no doubt came into the consciousness of man. Nature primarily builds with the conservation of balance.

Evidently, however, the application of the principle of balance for definition of weight toward useful purposes began with the invention of the suspended beam. When this became known cannot be fixed. The evidence is that the idea arose at many places and at diverse times. It is presumed to progress by the fixing of a definite mass of convenient size as a standard of weight as a counterbalance which should become the pound or whatever term is applied to it in history.

The balance is of prime simplicity, a radical term in nature incapable of modification, like the laws of the Medes and Persians, and only susceptible of improvement by refinement. As an instrument of precision it has reached a high point, but its information is now regarded as crude compared with the methods which we fondly call exact science. The spectacle of a merchant of old weighing a commodity with the simple balance and Dr. Paul Heyl weighing the earth forms a most striking antithesis. The astronomer weighing suns in the far spaces of the universe emphasizes the superseding of the inherited balance.

LENGTH

Apparently the primary measure developed in the course of man's initiation into culture was length. Obviously of indispensable utility, the use of length begins very early and the names of the units persist to this day of mechanical and mathematical procedures having a minimum of error.

These units are derivatives of the human body, its parts affording the standards enforced by the nature of its construction and having no extremes of variation between individuals. The measures so derived were always present and obvious and quite sufficient for the needs of the simple life and culture of our ancestors.

Clearly, the measures were applied from the sectioned, free moving portions of the body, as the arms and legs. Of these the arms were perhaps first and most used. The two portions of the arms flexed at the elbow joint were the most convenient measures and no doubt had priority in use, the smaller unit of the hand coming later.

Consideration must be given to those measures of length determined by the limits of the physical reactions of man's body. As with weight, commented upon above, the length of utensil and weapons with which man has supplied himself at any stage in his history is limited by the capabilities of the persons handling them. Likewise the places and conditions under which they are designed to be used are highly important to the measures and shapes of such artifacts.

The standard primitive whole measures which have come down from antiquity and afford the approximations satisfying to most of humanity at the present are the arms stretch or brace, and seemingly the half brace is the basis of our yard. The half arm appears early as the cubit, not as a fraction but as an obvious length from elbow to finger tips or approximately 18 inches. The variability of the cubit, as noted in this measure among ancient civilizations, would seem to be related to the diverse arm lengths observed in different races, and the longer cubit then would indicate Negroid derivations of this standard.

The smaller measure, the hand standard, has survived as the span, but this measure has not furnished a familiar term of our metric nomenclature, although when fractions of standards came into vogue, finger joints no doubt supplied the want.

The human foot was also a measure convenient of application and is much used by countrymen to this day for comparatively small estimations of length. For example in fencing, the distance between posts may be gotten by paces or by one foot before the other by a man whose foot is close to the right length. It is observed that psychologically this heel and toe measure is more comprehensible to the folk than the abstraction of the exact number of feet and inches. No doubt this is an inheritance of a disability that harassed ancient man in evolving measures.

The pace also may be of quite ancient origin. It corresponds to the whole arm length, but is much more facile of use for some measures. The pace seems likeliest to be of ancient ancestry. The Roman *mille* was one thousand paces, probably arising in military organizations. Million is also a great *mille*. The word mile is a derivative altered in length to conform to another standard.

As with other measures representing ideas of the structure of nature

hinted at in the rude beginnings of culture, length became instrumented in the human period just preceding the great advance, at some stage when needed fractions of length were applied, perhaps with halving, the natural and easiest comprehended division.

The branch of length measures relating to distance also developed in a late period and produced a highly interesting group of folk customs of estimating distances by shouts, by elapsed time determined by burning a stick, and many other folk devices which cannot be taken up here.

DIRECTION

It is easy to perceive that a sense or instinct of direction should be a fundamental animal inheritance. From this instinct highly developed or less highly in the animal kingdom to the limited applications in slowly growing human society where germs of system appear, there is a long progression. From the time when man began to be able to state direction with some point of reference, to the extraordinary complexity of the ideas of modern physicists on the subject there has been an amazing progress. This progress tends to place us in a rather hopeless quandary of relativity.

Primitive man is conceived to have had two datum points, the rising and setting of the sun. He could move toward or away from the sunrise or sunset, presumably not consciously. The gross angle of divergence from the sun path would be 90 degrees, which when recorded at a much later period would give the quaternary world figure or axial cross. Without doubt the instinctive sense of direction became dulled when the cares of social order interposed in natural life, or extended movements on land or water tended to complicate the known directions of home locations. Gradually other aids, such as the stars and planets, were brought in, useful both directionally and as well for indicating periods of time.

When man became geographically minded cannot be indicated, but there is no doubt that from his first appearance as a sentient being he accumulated knowledge not derived from instinct. The criteria of mountains, rocks, and other geographical features were always in sight in the environment, silently inculcating direction.

Accuracy of direction filled no need in primitive society. Orientation as suggested was a simple unconscious effort. The compass would be ages in the future and arise from a need of orienting the soul in its resting place, briefly a geomantic instrument in the religious system of China. Compared with the extended period when instinctive and folk directions were employed the compass invention is of yesterday. It is, however, possibly the first scientific instrument of which we know. Its coming required the evolu-

tion of the art of metallurgy and the discovery of smelting of iron, also the empirical knowledge of the transfer of magnetism. This is an example of the beginnings that kindled a faint recognition of needs whose development would have a tremendous value in the future.

CAPACITY

The evolution of measures of capacity cannot look to primitive time with much success for beginnings. Few if any of the artifacts of early culture required this measure and its conscious usage must be relegated to a comparatively recent period. The absence of obvious standards found in other lines of metrics precluded the transmission of capacity measures to historical times. Language, it is presumed, with its constant acquisitions of nouns would have words conveying the idea of full and empty and such connotations, but tangible objects having capacity and primary use would be absent. A whole line of such culture products or devices would appear with agriculture, domestication, transportation, and general commerce. These, however, would have little to do with the tremendous growth of capacity-space in modern science, in which metrics growing from diverse roots would be combined in mutual assistance in various problems.

TIME

Dr. Eddington states that there are two concepts of time, that of consciousness, not measured, and that derived from movements occurring in nature, given us by the astronomers. The natural movements or rhythms beat upon all organic nature, but come into expression by their action on the higher sentience of man.

Just how time measures or perception developed or in what order belongs to the unknown. At the dawn of history and in the lore of the less advanced tribes we find two chief luminaries enforcing division of time, the sun concerned in the rhythmic alternations of day and night, and the moon with more complex phases marking the longer period of the month. The month period requiring observation and memory record of connoting undoubtedly comes into use after the race has considerably advanced. The year periods of the sun and moon, the priority of which can only be conjectured, represent a further advance in primitive astronomy. The constellations and individual planets and stars as indices of seasons are known to have been of great importance in early society.

The need of time divisions reached its culmination when agriculture began to be practiced, ushering in one of the great climaxes of history. The period beginning at no great time in the past crystallizes many indeter-

minate folk-lore ideas evolving in human society. One of these, which would be of lasting effect on world progress, was the linking up of the practical need for astronomy with religion, supposed to be the earlier logos.

The lore of the farmer seeking for some law to secure his crops was taken over by the priesthood, who, with leisure and subsistence, possessed the conditions for reducing the crude observations to order.

LOCATION IN TIME-SPACE

The vast modern development of the ideas of location or position science is scarcely represented in primitive conditions. Such germs in the presumed primitive state of man would appear in a hypothetical psychology revolving around the idea or sense of here and there, ideas apparently fundamentally necessary in any society however primitive.

Involved in this is the suggestion that there must have arisen at an early period the consciousness of identity, tracing back to what are called instincts of animal societies in which movements from place to place are in mass or the sum of individual actions. The progress of this idea is seen to be of high importance. We can, however, only observe man at a period when he had acquired the knowledge of being and hence individuality. It is suspected that this consciousness has not permeated the whole human race as yet.

In the growth of the employment of metrics, here in relation to there began to be expressed in crude and gradually refining terms. Modern expressions of such terms instead of becoming more accurate are involved in undreamed of complexity.

NUMBERS

Numbers are the units evolved in the various metrics essential to the progress of culture. These units are at first quite simple and supply primitive wants. Becoming more exact and expanding they are gradually brought together into systems somewhat as the symbols of the alphabet became regulated into series.

Numbers are thought of in connection with record, but primitive numbers had no record, being stored in the mind as part of human experience, or as solvents of primitive metric problems. They evolve from the rude generalizations on facts in the environment. They represent the efforts of man to state in terms the psychological reactions of the visible world. Numbers emerging into man's consciousness from experiments in primitive metrics are the basis of mathematics, regarded as a very old science. The union of numbers and metrics, not close at first, has become of incalculable

importance, furnishing the medium with which the intellect of man soars into the intangible realm of the universe.

The subject of numbers has attracted the philosophic of all ages. Critically the deductions of the philosophers were not based on the proximal observational data furnished by the creature man himself or were based on faulty observations on tribes in a low state of culture. Modern, more exact observations on tribes show that numbers are specific things, and that there is no generic term to represent them divorced from things. Ten are ten fingers, not ten as an abstraction. Ten fingers may, as an advance, be expanded to twenty digits by employing the toes, and that may be the limit, and instead of proceeding, the savage must begin again with visual or tangible things up to the number he is capable of seeing.

Primitive man supposedly knew that he had fingers, but not their number. At an early period this would be useless information. Evidently the finger count came much later and the abstract of numbers still later. The usefulness of numbers became evident in human consciousness with the expansion of communication, especially in the line of exchange within the group or tribe and increasing with external exchange. The first records were personal and grew out of property. These records may be conceived as scores or series of straight lines and much later, even to the present in some instances, of graphs of the objects recorded like the whaler's graphs of the tails caught entered in the log book. The Eskimo made such records on ivory bag handles, but there is no evidence that such a custom antedates contact with the white man who seems to have introduced more exact ideas of number and record. In any case this is an expedient that is suggestive of multiple origins reaching back perhaps to early periods.

Another form of number concept is found in number gestures. This phenomenon would seem to exist in the transition between number conception and record. It is not likely to appear therefore in the primary stages of measures, though it has doubtless an ancient history. Owing to its usefulness as a secret method of bargaining it is still employed, especially in the Orient.

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THE FAST AMONG NORTH AMERICAN INDIANS

By JULES BLUMENSOHN

FASTING was widespread in the religions of the North American Indians. Some tribes rationalized it: the fast might, for example, be considered a purificatory rite, as among the Salish of Puget Sound¹ and the Tepecano of Central Mexico.² But more often explanations of this kind were not given. The tendency to rationalize elements of culture had, in these instances, passed the fast by. It was taken for granted, and no explanation was provided.

To these conceptions of the fast as an element of quasi-magical technique, or as the customary and unquestioned thing to do, the attitude of the Central Algonkian³ tribes is in striking contrast. Just as the peculiar Plains type of bundle fetish was taken up by the Blackfoot and made the very core of a great economico-religious complex, so the fast was especially worked up, but in an entirely different way, by the Central Algonkian. But not only did they focus their attention particularly on the fast, they used it in a way very different from the tribes of the surrounding regions. The Central Algonkian used the fast in a *personal relation* with the supernatural. They believed that by fasting the suppliant underwent such suffering, made himself so weak, that the spirits were overcome with pity, and so granted him whatever he desired.

To one familiar with the literature on religion in North America this contrast must be fairly evident. Time after time, in regions other than that occupied by the Central Algonkian, we read that an individual fasts for purity, or for "ceremonial cleanness," or simply that he fasts. But this peculiar, what might almost be called this emotional, specialization of the fast developed by the Central Algonkian is unique.

Throughout the literature—mythology, ritual texts, stories of personal experiences—of the Central Algonkian, and also throughout that of many of the tribes of the Great Plains with whom the former share certain elements of their religion, the ritualistic expression "pity me," or some variant of it, runs like a refrain. It was used in begging blessings of the spirits, and even in asking favors of men. Further, both the Central Algonkian and Plains tribes had conventionalized the same technique of approach to the supernatural. To daub the face with clay or charcoal as if in mourning, to shed tears; to cry aloud for pity, and to wail was the procedure fol-

¹ Haeberlin and Gunther, p. 57.

² Mason, p. 124.

³ The Siouan Winnebago, who shared the Central Algonkian culture, are included here

lowed by both groups of peoples. It was the way to get things from the higher powers. The method and the phrase were employed frequently even without fasting or the performance of any austerity by some of the Plains tribes. But although there can be no doubt that almost all of these tribes shared the technique, we cannot be sure from the material that the Plains Indians, like the Central Algonkian, thought of the fast as helping to provoke the pity of the spirits.

The two groups of peoples seem, however, so similar in their basic attitudes toward the supernatural that it is often difficult to see just where they were the same and where quite different.

The problems, then, are three: (1) to contrast the Central Algonkian conception of the fast with that of the tribes in areas other than the Great Plains; (2) to compare the Central Algonkian with the Plains tribes; and (3) to show that the specific association achieved by the Central Algonkian is the result of the coalescence of two essentially unconnected religious elements that were widespread in this area.

FASTING OUTSIDE THE AREA OF THE PLAINS AND THE GREAT LAKES

In the Western Plateau the Thompson, Shuswap, and Lillooet exemplify groups that used the fast but do not appear to have rationalized it. Their silence on this point contrasts markedly with the definite rationales provided by them for other austerities.

The fast accompanying the puberty training of all boys and girls, for example, was not rationalized.⁴ But although we are not told the object of the fast, we do learn that the reason the Thompson girl pierced the flesh of her armpits until the blood ran was "to make her body pure. . . ."⁵ The Shuswap youth

cut the points of his fingers. . . . Others usually cut four half-circles or four straight lines . . . on the outside of each leg, . . . afterwards piercing the inside of each leg in four places . . . with the point of a dagger, or instead, cutting four dot-like cuts or crosses.

He mortified himself thus in order

that he might be enabled to withstand pain stoically and without fear, and that, if wounded, his wounds might heal quickly. The cutting of the finger tips was supposed to let out all bad blood.

Those training to be gamblers also cut the point of their tongue, and some of them swallowed the blood. This was supposed to make them lucky.⁶

⁴ Teit, Thompson, pp. 313, 317; Shuswap, pp. 587, 588; Lillooet, p. 266.

⁵ Teit, Thompson, p. 315.

⁶ Teit, Shuswap, p. 590.

The Shuswap girls, at their first menses,

placed little heaps of dry fir needles on their wrists and arms, to which they set fire, meanwhile praying that they might be enabled to withstand pain of all kinds, but especially that of childbirth.⁷

Lillooet boys cut each other. This cutting

would make a person insensible to fatigue, able to withstand loss of blood, and capable of seeing and smelling blood without fainting.⁸

The fast undergone by the Thompson⁹ and Shuswap¹⁰ warriors before going out on a warparty was not rationalized.

Since in every instance the specific object of the fast is not given, while explanations are provided, as we have seen, for scarification and burning, it would appear that fasting was so much taken for granted generally, or formed such a minor part of the puberty training, that it was never explained.

In the Southeast, the fasts of the Creek were sometimes observed in connection with the drinking of the "black drink." The Creek believed that this drink purified them from all sin

and leaves them in a state of perfect innocence; that it inspires them with an invincible prowess in war; and that it is the only solid cement of friendship, benevolence, and hospitality.¹¹

Hence, the warriors, who always drank the black drink for three days before going on the war-path, fasted during this period lest the taking of food destroy "the power of their purifying . . . physis," (the black drink).¹² Here fasting is evidently a means of remaining or becoming "pure." So, too, the warrior, who had shed blood, fasted to purify himself upon his return.¹³

The "Great Annual Ceremony of Busk" of the Creek was accompanied by a fast;¹⁴ the aspirant to shamanistic powers included fasting in his training;¹⁵ and the shaman himself fasted before attempting a difficult feat, such as stopping the rain.¹⁶ Even the participants in a Choctaw ball-game, which

⁷ *Ibid.*, p. 588.

⁸ Teit, Lillooet, p. 266.

⁹ Teit, Thompson, p. 263.

¹⁰ Teit, Shuswap, p. 543.

¹¹ Swanton: Creek Religion, p. 538, quoting Swan.

¹² *Ibid.*, p. 410, quoting Adair, History of the American Indians.

¹³ *Ibid.*, pp. 415-416, quoting Adair.

¹⁴ *Ibid.*, p. 546.

¹⁵ *Ibid.*, p. 619, quoting Hawkins, A Sketch of the Creek Country.

¹⁶ *Ibid.*, p. 616.

was often played for high stakes, fasted from the evening before the game until it was over the following day, in order to obtain supernatural help.¹⁷

Thus, the Creek rationalized the fast to some extent. As an instrument of purification, whatever construction we may place on the word "pure," it was a unit of magical technique.

The ancient Mexicans fasted on many religious occasions, but neither in the numerous accounts of rites given us by Sahagún,¹⁸ nor in those collected by Nuttall,¹⁹ is the fast specifically rationalized.

The individual expiatory rite was preceded by a fast of four days.²⁰ The "penitential" sacrifice,²¹ of passing twigs through the tongue and cutting the ears, might, in the case of minor sins, be substituted for by a fast.²² Here, perhaps, it might be said that by substitution the fast became a form of sacrifice; but this is a conclusion arrived at solely by inference, and there is nothing to confirm it further. Some of the religious festivals were also preceded by fasts.²³ In the month Panquetzaliztli, before the festival of Vitzilopuchtli

the priests of the idols fasted for forty days, and performed other sharp penances, such as going naked at midnight to the mountains for branches.

The owners of the slaves that were to be sacrificed at the festival began to fast on the sixteenth day . . .²⁴

It is impossible to believe, however, that every time Sahagún used the word "penance" to designate the ritualistic hardships undergone by the ancient Mexicans, the latter had the Catholic conception, or something resembling it, in mind. It would seem rather, that the term was used in a generic sense to include a variety of practices, and that its conceptual content was in abeyance. The following, which contains a rationale of a partial fast, serves well to illustrate the friar's use of the word "penance": Before the festival called Atamalqualiztli, or the

fast of bread and water, they ate nothing for eight days . . . but some tamales made without salt, nor did they drink anything but clear water. They said that they did this in order to give the food a rest, since during that fast nothing was eaten with

¹⁷ *Ibid.*, p. 457, quoting Adair.

¹⁸ *Historia General*.

¹⁹ A Penitential Rite of the Ancient Mexicans.

²⁰ Sahagún, L. I, Cap. XII.

²¹ Nuttall, *Book of the Ancient Mexicans*, *op cit.* p. 8.

²² Sahagún, L. I, XII.

²³ *Ibid.*, Cap. XIV, L. II, Caps. III, IV, VI.

²⁴ *Ibid.*, L. II, Cap. XV.

the bread. They said, in addition, that all the rest of the time they exhausted the food or bread by mixing it with salt, lime, and nitre. In this way they dressed and undressed it in different styles and liveries with the result that the food was insulted and made old. By the fast it was rejuvenated. The day after the fast was called *molpololo*, which means that they *could now eat other things with the bread*, since they had done penance for the food.²⁵

Clearly, "penance" here refers not to what is thought, but to what is done.

The same usage is found in the writings of the early travelers on the Western Plains. Thus, Jefferson refers to the self-torturers in the Sun Dance of the Plains Cree as "penitents";²⁶ and Maximilian²⁷ and Long²⁸ say the same of the torture accompanying the Mandan Okeepa. But in the case of the Mandan and other Siouan tribes, we know from several sources that these tortures were forms of sacrifice, and sacrifice among the Sioux did not atone for sin.²⁹ The concept of sin is foreign to the Indians of the Plains.

Thus the Mexican picture resembles that of the Plateau tribes, for in Mexico too, fasting seems to have been so much a part of religion that almost no rationale was provided.

From the Mexican Tepecano we have a small contemporary collection of prayers. The recital of some of them is preceded by a fast.

When there has been a great deal of sickness and many deaths . . . the five principal men of the village meet and hold a consultation. They decide that the Death Goddess has been too active and must be sent hence. They therefore undergo an ablutionary fast of five days

preparatory to praying for permission from the higher gods to seize the Death Goddess and send her away.³⁰

But of the other fasts—before planting the corn in June,³¹ before going out to hunt deer for ceremonial purposes, before beginning to build a house,³² or before the native "doctor" begins his treatment,³³—no rationalization is given.

Thus, over a great area outside of the Plains and the Central Algonkian region, fasting was a religious practice. Not only was the sweep of the fast

²⁵ *Ibid.*, Appendix L, II.

²⁶ Goddard, *Sun Dance of the Cree*, p. 305.

²⁷ Wied-Neuwied, p. 324.

²⁸ J. O. Dorsey, *Siouan Cults*, p. 503.

²⁹ See especially *ibid.*, pp. 502, 521, 522.

³⁰ Mason, p. 134.

³¹ *Ibid.*, p. 132.

³² *Ibid.*, pp. 132, 136.

³³ *Ibid.*, p. 131.

great geographically, but its diffusion through various elements of culture within each tribe was also extensive. The ball player, the warrior, the shaman, the builder of a house, or the would-be visionary, all, in one tribe or another, found the fast a necessary rite. But nowhere was the fast used in that peculiar personal relation with the supernatural which is especially characteristic of the Central Algonkian tribes.

FASTING ON THE PLAINS

On the Plains, too, fasting was a common enough rite, there being a tendency to incorporate it into the more distinctly religious ceremonies, and here also it was rationalized. Indeed, allowance must be made for more than one interpretation within this area, and, as among the Dakota and Ponca, even within the same tribe. It will, it is hoped, also become clear that although fasting and making oneself pitiable were parts of a characteristic Plains technique of approach to the supernatural, it is by no means clear that fasting was thought of as producing the pitiable condition. This does not, of course, mean that it was not in some instances. In the cases discussed here, however, the myths and stories of personal experiences—the only evidence we have besides the silence of the ethnologist—fail to speak at all definitely on the point. Throughout the following discussion it will be well to bear in mind that the Indian who was poor; the Indian who wept for something he greatly desired; the Indian who wanted anything whatever, was a pitiable Indian. As such he might be vouchsafed a blessing, or, as the Plains idiom put it, he might be “pitied by the spirits.”³⁴ He did not always have to fast in order that his cry for pity might be heard, and often he did not.

The Omaha, Ponca, and cognate tribes,³⁵ and the Algonkian Arapaho³⁶ fasted before telling particularly sacred tales. Everywhere on the Plains warfare was carried on under supernatural sanction and protection. Therefore, all the members of an Omaha war-party fasted for four days before going out to fight.³⁷ The sacrosanct individual responsible for the proper conduct of the annual Omaha buffalo hunt fasted for four days before the start.³⁸ Among the Southern Sioux fasting was not a necessary part of every ceremony,³⁹ but among the Dakota it was,⁴⁰ although the semi-

³⁴ Benedict, *Guardian Spirit*, p. 26.

³⁵ J. O. Dorsey, *Siouan Cults*, p. 368.

³⁶ Dorsey and Kroeber, *Arapaho Traditions*, p. 6, foot-note.

³⁷ Lowie, *Assiniboine*, p. 93. For the Ponca practise see J. O. Dorsey, *op. cit.*, p. 390.

³⁸ Fletcher and La Flesche, p. 276.

³⁹ See J. O. Dorsey, *Kansa Worship of the Thunder Being*, *op. cit.*, p. 385; Osage, *Consecration of the Mystic Fireplace*, *ibid.*, p. 381.

⁴⁰ *Ibid.*, p. 450.

sacred warrior societies of the Oglala⁴¹ and the Eastern Dakota⁴² did not make it part of their ceremonies.

The Mandan considered fasting one of the regular accessories of worship.⁴³ The White Buffalo Cow and the Goose societies⁴⁴ which, with the River society of the Mandan and Hidatsa

are rather sharply separated from the others by their clearly sacred character,⁴⁵ included fasting in their rituals as did the Dance of the Water Sprinkling Old Men, the most sacred lodge of the Arapaho.⁴⁶ So too, the pledger of the Women's Dance of the Arapaho fasted while the ceremony lasted,⁴⁷ and the Horn society of the Blackfoot, most feared of all the Blackfoot organizations because of its great supernatural powers, demanded that during a part of the transfer ceremony "the women must fast and abstain from drink."⁴⁸ Lowie quotes Keating's account of a Dakota "No-flight Society" whose fasts were "both frequent and rigid."⁴⁹ It does not appear that this society had any especially religious character.

The Sun Dance was always accompanied by fasting. To such a degree, indeed, that the Lemhi, who were familiar with the Sun Dance, never adopted it because they were "afraid . . . of the several days' abstention from food and drink."⁵⁰

The practice of fasting for a vision is too well-known to require extensive discussion here. It has been fully presented elsewhere.⁵¹ It was an element in the culture of all the tribes of the Plains.

Thus, on the whole it may be said of the area that there was a tendency to incorporate the fast into the more distinctly religious ceremonies. The Pawnee stand as the single exception. None of their sacred bundle rituals required a fast before their performance. Only the medicine men fasted as part of the observances of their great Thirty Day Ceremony.⁵²

There are several blanket interpretations of the fast in the Plains area,

⁴¹ Wissler, *Oglala Societies*.

⁴² Lowie, *Dance Associations of the Eastern Dakota*.

⁴³ J. O. Dorsey, *op. cit.*, p. 502.

⁴⁴ Lowie, *Crow, Hidatsa and Mandan Societies*, pp. 350, 334.

⁴⁵ *Ibid.*, p. 324.

⁴⁶ Kroeber, *Arapaho*, p. 208.

⁴⁷ *Ibid.*, p. 211.

⁴⁸ Wissler, *Blackfoot Societies*, p. 415.

⁴⁹ Lowie, *Assiniboine*, p. 94.

⁵⁰ Lowie, *The Northern Shoshone*, p. 216.

⁵¹ Benedict, *The Vision*.

⁵² Wissler, *The Pawnee*, MSS.

which might at first seem to exclude the possibility that it was used in the personal relation. Thus, fasting was a form of sacrifice among the Siouan tribes.⁵³ But it might also, as among the Dakota, be considered a purificatory rite.⁵⁴ It is evident, however, that we have more than one interpretation of the same rite within the same tribe, for the Siouan Dakota considered the fast both as a form of sacrifice and as a purificatory rite. We have, in addition, intertribal variation:⁵⁵ the scapegoat idea, for example, is unique among the Ponca, where the dancers in the Sun Dance were "supposed to bear the sufferings of the tribe."⁵⁶ It would seem, therefore, that the conception of the fast as a form of sacrifice is logically no barrier to its interpretation in the same tribe as arousing pity, and that its use by one tribe in one way need not imply a similar usage by all the other tribes within the same area.⁵⁷

It is important to notice that in all of the statements concerning the fasts accompanying religious events other than the vision quest, there is not a suggestion that fasting was ever used to inspire the pity of the supernaturals. Hence, for the remainder of the discussion of fasting we may confine our attention almost exclusively to the vision quest, where, if anywhere, we must look for the association of fasting and pity.

When we turn now to the careful and elaborate study of Crow religion,⁵⁸ we find the statement of Dr. Lowie that the individual

may go in quest of a vision, generally subjecting himself to suffering in order to arouse their (i.e. the supernatural powers) commiseration and thus obtain a revelation.⁵⁹

Elsewhere the same writer puts the case more strongly:

The ambitious warrior, the mourner filled with the lust for vengeance, the spurned lover, and the youth chafing from a sense of his family's poverty, must mortify their flesh and thus arouse the compassion of the supernatural powers."⁶⁰

Of course, mortification, by definition, includes fasting

What, then, do Crow traditions and stories of personal experiences reveal of this attitude with respect to the fast? That they reveal little that is

⁵³ J. O. Dorsey, *op cit.* p. 522

⁵⁴ *Ibid.*, p. 445.

⁵⁵ The variation in religious ideas within the same area has been pointed out often before. See especially, Benedict, *The Guardian Spirit*, pp. 10 and 15.

⁵⁶ G. A. Dorsey, *Ponca Sun Dance*, p. 69.

⁵⁷ See note 55.

⁵⁸ Lowie, *Crow Religion*.

⁵⁹ *Ibid.*, pp. 325-326.

⁶⁰ Lowie, *Primitive Religion*, p. 4.

definite may be shown by a few examples from the stories of individual vision experiences. Muskrat, a female visionary,

went out fasting, and had a vision of a weasel. . . . "A weasel came on my neck, causing a queer feeling. . . . The weasel said: "This is what we want to give you "

On another occasion:

When I was out fasting a gray horse came up to me and went into my stomach. He told me he should enter me.

On still another:

I was fasting on a mountain, having heard that a man had slept there . . . While I lay there, I saw baldheaded hawks (⁶¹) but the eagle got ahead of them, jumped towards me, and shook one wing after the other, all in order to scare me ⁶¹

Medicine Crow was another who fasted for a vision. He

once stood where there were plenty of skulls, on the other side there was a high place "I spent four days and nights without drinking anything. On the fourth morning I heard in the west a shout and a whistling sound. . . . Then I heard a voice say, 'There is something coming to meet you from over there.' . . . It approached and I beheld a white man. . . . standing before me. . . . The young man said, 'You are poor and I have known this a long time. All the people around here will always know about you and hear about you, you will be chief'." ⁶²

Clearly, the supernatural who blessed Medicine Crow was troubled by his poverty. If the spirit was moved by his thirst, we get no inkling of the fact from this account. Nor is there anything in Muskrat's stories of her many visions that suggests the association in question.

The myths are no less unilluminating. In the tale of "A Visit to the Sun," for example, we read simply that

One Hidatsa went out to fast. Some cranes came and told him, "The man you want to see will be here in the fall" ⁶³

and the legend of "The Crow Who Went to the Birds' Country" merely tells that

A young Crow fasted, wishing to see the country where the birds lived . . . On the fourth day he fasted a meadow lark came and wanted to adopt him. ⁶⁴

Indeed, an informant, Arm-round-the-neck, who

had twice attempted to gain a vision by not drinking water and had failed,

⁶¹ Lowie, *Crow Religion*, p. 340.

⁶² *Ibid.*, p. 341.

⁶³ Lowie, *Crow Myths*, p. 156.

⁶⁴ *Ibid.*, p. 158.

was pitied when he did not mortify himself. He had dreams "while sleeping." This dream was given him by dogs:

I was walking [he continues], followed by several dogs. I lay down under a tree and fell asleep with the dogs lying around me about the tent. So I thought they took pity on me and gave me horses.⁶⁵

But that the Crow technique of approach to the supernatural did include making oneself pitiable is made clear elsewhere. Thus, in the primeval conversation between Red Woman and Old Man Coyote's wife, the latter asks the former, "What will you do with people going out for visions?" and Red Woman replies, "When their tears fall on the ground they'll get pay for it some day, and some day they'll live well."⁶⁶ And White-Arm, an informant, refers to the vision quest as "'crying for a vision'."⁶⁷ Hence, although the stories of individual experiences, and the myths fail to give any suggestion of the conception of the fast reported by Dr. Lowie, the *total setting* is such that it might easily give rise to it.

This will become clearer, perhaps, if we consider some of the more rigorous practices of the Crow vision quest.

If a boy's parents were poor he would decide

to go out, fast, and thereby come to own property. Strips of flesh were cut off and placed on a buffalo chip, and some such prayer as the following was addressed to the Sun: "Hallo, Old Man. I am poor. You see me, give me something good. Give me long life; grant that I may own a horse, that I capture a gun, that I strike a blow against the enemy. Let me become a chief, let me own plenty of property."

At the same time the suppliant wept and cried to the Sun.⁶⁸ Scratches-face's story is more charged with affecting elements. He says:

I fasted because three of my brothers . . . had been killed. . . . When an Indian had a brother, he could take anything they had and give it away. When all of mine were killed, I was alone, had no horses, nor anything else.

I went on a mountain, chopped off a finger joint, and gave it to Old-Woman's-Grandson, saying: "Old-Woman's-Grandson, I give you this. Give me something good (pay good give me)." I cried out loud a good deal. I wanted some animal or something else to help me. Before chopping my finger off, I held it toward the sky, praying and thus speaking to Grandson, "I do not steal nor do any other bad things, and you have known me. That is why I am poor." When I had said this I chopped off my finger. I cried, saying, "I am poor, give me a good horse. I want to strike

⁶⁵ Lowie, *Crow Religion*, p. 327.

⁶⁶ Lowie, *Crow Myths*, p. 29.

⁶⁷ Lowie, *Crow Religion*, p. 333.

⁶⁸ *Ibid.*, p. 333.

one of the enemies, and when I go on a good road I want to marry a good-natured woman. I want a tipi to live in that I shall own myself." It was night time. Blood was streaming from his finger. It grew cold. The pain in his arm kept him awake. At last he fell asleep. In his dreams a man appeared to him and said, "I will show you what you want to see. You have been poor, so I will give you what you want."⁶⁹

In these instances, certainly, the setting is one in which the belief that mortification of the flesh was indeed a way of bringing about a personal relation with the supernaturals might easily take root. The poverty of the suppliant, the tears streaming down his cheeks, his cries, all make him pitiable. And finally, the painful laceration which he inflicts upon himself might easily be considered as working to the same end. In the same way, fasting might fit into the psychological situation in the vision quest.

At the same time all of these forms of mortification were thought of as forms of sacrifice.⁷⁰ Hence, mortification as the agent of compassion might in this case be but the corollary of mortification as sacrifice.

The technique of making oneself pitiable is found also among the Omaha, Iowa, Kansa and cognate tribes of the southeastern Plains.⁷¹ The origin of the puberty fast⁷² of Omaha boys is thus described in an Omaha legend:

The people felt themselves weak and poor. Then the old men gathered together and said: "Let us make our children cry to Wako^oda that he may give us strength." So all the parents took their children who were old enough to pray in earnest, put soft clay on their faces, and sent them forth to cry to Wako^oda. "When on the hills you shall not ask for any particular thing. The answer may not come as you expect; whatever is good, that may Wako^oda give." Four days upon the hills shall the youth pray, crying. When they stop, they shall wipe their tears with the palms of their hands and lift their wet hands to the sky, then lay them to the earth. This was the people's first appeal to Wako^oda.⁷³

Another reflection of the Omaha attitude is found in the appellation of the prayer sung by all the youths during the vision quest. It was called

"to weep from loss," as that of kindred, (. . . to weep from the want of something not possessed, from conscious insufficiency and the desire for something that could bring happiness or property).⁷⁴

⁶⁹ *Ibid.*, p. 337.

⁷⁰ J. O. Dorsey, *Siouan Cults*, p. 522; Lowie, *op. cit.*, pp. 332, 428.

⁷¹ In connection with this group, whose cultural affiliations with the Central Algonkian are so well known and so definite, it is interesting to note the close similarity of their religious attitudes to those of the Menomini, Fox, and Winnebago.

⁷² Fletcher and La Flesche, p. 129.

⁷³ *Ibid.*, pp. 128-129.

⁷⁴ *Ibid.*, p. 130.

The conventional prayer to Wakoⁿda was "O Wakoⁿda, pity me."⁷⁵

The form . . . which appeared to the man was drawn toward him . . . by a feeling of pity. The form used to express this impelling of the form to the man was . . . "to have compassion on."⁷⁶

And finally, among the accessories of the prayer of the Sioux is mentioned "ceremonial wailing and crying."⁷⁷ The daubing of the face with clay was also a mourning rite.⁷⁸ So much, indeed, did these prayers resemble manifestations of grief that an early traveler mistook the daily before-sunrise prayer⁷⁹ to Wakoⁿda of the closely related Osage for a mourning rite.⁸⁰ The Osage prayed in this way three times a day,⁸¹ daubing the face with clay, without, of course, fasting or performing any austerity--another instance of the psychological technique without physiological accessories. The Omaha prayed once a day to the supernaturals, using the conventional appeal for pity.⁸² In this instance also, the prayer was unaccompanied by austerities.

The more fragmentary accounts of the Iowa and Kansa describe similar practices and a similar psychology.⁸³ But in all the careful work of J. O. Dorsey, Fletcher, La Flesche, and Skinner, there is not a suggestion by them that they encountered among these Southern Siouan tribes an attitude toward the fast similar to that reported by Dr. Lowie for the Crow. Considering, therefore, the great distribution of the fast, in so many approaches to the supernatural, and its frequent dissociation from the pity motif, the alternative possibility is at least admissible: that the Southern Sioux used the fast as a means of approach to the supernatural, and that although they cried at the same time for pity, they failed to make the peculiar association that characterizes the Central Algonkian. The material⁸⁴ on the more northern and western tribes of the Siouan stock might be discussed along similar lines, leading to the same conclusion.

⁷⁵ J. O. Dorsey, *op. cit.*, p. 377, La Flesche, Osage, Rite of Vigil, p. 4.

⁷⁶ Fletcher and La Flesche, p. 130.

⁷⁷ J. O. Dorsey, *op. cit.*, p. 373.

⁷⁸ Bushnell, Burials West of the Mississippi, p. 51.

⁷⁹ La Flesche, *op. cit.*, p. 41, Osage, Rite of Chiefs, pp. 49-50.

⁸⁰ Bushnell, *op. cit.*, pp. 56, 57.

⁸¹ La Flesche, Rite of Chiefs, pp. 49-50.

⁸² Fortune, Omaha Secret Societies, p. 48.

⁸³ Skinner, Societies of the Iowa, Kansa, and Ponca Indians, pp. 701, 712, 739, 750, 769.

⁸⁴ The following references are suggested: Denig, pp. 483, 484, 490; and Lowie, Assiniboine Myths, give the relevant data for the Assiniboine; J. O. Dorsey, *op. cit.*, pp. 436, 463, 464, contains the rather scattered data on the Dakota; *ibid.*, pp. 502, 507, 509. Pepper and Wilson, pp. 306, 319, and Wied-Neuwied, pp. 219, 318, give the few relevant facts regarding the Mandan and Hidatsa practices and attitudes.

Behavioristically the Blackfoot, Gros Ventre and Skidi Pawnee closely parallel the Siouan tribes of the southern Plains. The Arapaho and the Pawnee especially used the pity formula in a wide range of situations, the Blackfoot, Gros Ventre, and Cheyenne to a somewhat lesser extent.

Although the investigators do not report the Central Algonkian attitude among the Arapaho, a brief consideration of the material will show that it may well have been there.

For the sake of convenience we shall refer to those conditions of distress, privation, or unfulfilled desire described in the myths, as "stress" situations. Now it was precisely in these cases that the characteristic expression of compassion might be expected to appear. Since, therefore, a four-day fast caused a condition of stress, it might well be that this very situation served as the link between the fast and the interpretation of it as arousing pity. Add to the situation the ceremonial weeping and crying that was the invariable accompaniment of the vision quest, and we have a combination of elements out of which the belief that fasting was the means of arousing the pity of the supernaturals might well have arisen. At the same time, however, it might be well to point out that the four-day Sun Dance fast was considered a purificatory rite by the Arapaho.⁸⁵

The following tale is one in which no physical suffering is sustained with the object of obtaining the good desired, yet at the same time the cry for "mercy" and the shedding of tears are present:

Nih' aⁿçaⁿ (the trickster) was charmed by the trick (of sliding through arrows) and went to Beaver, (who had it), weeping for mercy. "Have mercy on me please, and give me the right to do the same way," said Nih' aⁿçaⁿ weeping, and at the same time wiping the tears away. "Well, since I like your ways, I came over weeping, to be given mercy, in order that I might accomplish the same feat," said Nih' aⁿçaⁿ.⁸⁶

Here we are dealing with something quite different from a condition of stress. The approach of the trickster is an extremely formalized technique. The formula, "Have mercy on me please . . ." has little emotional content; the trickster's tears seem hardly to be expressions of sadness.

A story of a vision fast portrays the stress situation vividly: Fasting, a man

went up on the hills naked, except for a blanket, and during the night prayed and cried. . . . A spirit came and said, "If you do as I tell you, it will be well",⁸⁷

⁸⁵ G. A. Dorsey, *Arapaho Sun Dance*, p. 69.

⁸⁶ Dorsey and Kroeber, *Arapaho Traditions*, p. 52.

⁸⁷ Kroeber, *The Arapaho*, p. 427.

The creation myth reminds us that

In the first place there was nothing but water, except the waterfowls; and the Grandfather saw that there was a father (flat pipe) of the Indians floating on the water. . . . Knowing that that person floating on the water was fasting, and weeping and crying, and seeing that he was really fasting for the good, the Grandfather took mercy on him.⁸⁸

In the second example, and certainly in the first, there is nothing specific enough to prove definitely the existence among the Arapaho of the use of fasting to inspire the compassion of the spirits. Indeed, there is nothing to show that the emphasis was not primarily upon the fast but upon weeping, as it seems to have been among the Pawnee.⁸⁹

In the whole mass of data for the Cheyenne there is no statement that the Cheyenne made themselves pitiable in order to win the blessings of the spirits. In fact G. A. Dorsey specifically stated⁹⁰ that they did not do this. In Grinnell's accounts of the Cheyenne quest for supernatural power⁹¹ the fasting and other accompanying austerities are referred to consistently as sacrifices; there is not a suggestion that the Cheyenne thought of them as provoking the pity of the supernaturals. Throughout the literature, however, there is abundant evidence of the use of the "pity me" formula. Thus, the following address is made to the tree that is to be cut down for use as the centre pole of the Sun Dance lodge:

The whole world has picked you out this day to represent the world. We have come in a body for this purpose, to cut you down, so that you will have pity on all the men, women and children, who may take part in this ceremony. You are to be their body. You will represent the sunshine of all the world.⁹²

Toward the end of the fourth day of the Sun Dance, the Lodge Maker and his wife began their fasting and thirsting in imitation of the

Great Medicine spirit, who long ago fasted forty days and then took pity on the world and made it.⁹³

The announcement that secret rites were taking place in the Lone Tipi, was:

Little Hawk (the Lodge Maker) has taken pity on you! Little Hawk has taken pity

⁸⁸ Dorsey and Kroeber, *op. cit.*, p. 1.

⁸⁹ G. A. Dorsey, *Pawnee Traditions*, pp. 68, 95, 153, etc.

⁹⁰ Orally to the writer.

⁹¹ Grinnell, *When Buffalo Ran*, pp. 79-85; *The Cheyenne*, Vol. I, pp. 80-82.

⁹² G. A. Dorsey, *Cheyenne Sun Dance*, p. 111.

⁹³ *Ibid.*, p. 104.

on you! He gives you notice that he gives his wife up to the sacred lodge. He takes this opportunity to announce to you this great act of his.⁹⁴

And finally, while the buffalo skull is being prepared in the Lone Tipi, the Lodge Maker addresses this prayer to those engaged in its preparation:

Please do this right; all of you will be happy; have pity on me and if you will perform this as you ought you will receive benefits from the ceremony. . . .⁹⁵

When approaching with offerings the lodge of the keeper of the medicine arrows, the powerful fetishes sent to the Cheyenne by the Great Power,⁹⁶ it was customary to cry, mourn, and wail.⁹⁷ So too, in the Cheyenne versions of the Lost Eye,⁹⁸ and Trickster Catches Fish⁹⁹ stories, we find the "crying" that on the Plains is liable to accompany almost any request. In the entire collection of Cheyenne tales there is only one story of a vision fast:

A long time ago men had not yet learned to use the eagle for their war-ornaments. A man climbed a high mountain; he lay for five days, crying, without food. Some powerful being, he hoped, would see him and come to him, and teach him something great, and so he would receive help and rest from his trouble. He was glad when a voice spoke to him. It said: "Try to be brave, no matter what comes, even as if to kill you. If you remember these words, you will bring great news to your people, and help them."¹⁰⁰

Thus, although we find among the Cheyenne suggestions of the widespread Plains technique, on the whole it would seem that they did not make a special point of attempting to make themselves pitiable; and that there is little to suggest that fasting was used in personal relation with the higher powers.¹⁰¹

The Blackfoot attitude seems to resemble rather closely that of the Arapaho, and on the whole suggests the conclusion to which we came in regard to the latter. Thus,

While at the chosen place (for fasting for a vision) the seeker of dreams or visions is expected to beseech all the things of the sky, earth, and water, to take pity on him. This call is a mournful wail. . . .¹⁰² [One visionary] "fasted and prayed for

⁹⁴ *Ibid.*, p. 81.

⁹⁵ *Ibid.*, p. 96.

⁹⁶ Grinnell, *By Cheyenne Campfires*, p. 3.

⁹⁷ *Ibid.*, pp. 20, 32, 139; *The Cheyenne*, Vol. 2, p. 8.

⁹⁸ Grinnell, *By Cheyenne Campfires*, p. 294.

⁹⁹ *Ibid.*, p. 296.

¹⁰⁰ Kroeber, *Cheyenne Tales*, p. 163.

¹⁰¹ See, however, the account of the vision quest in Grinnell, *When Buffalo Ran*, pp. 79-85.

¹⁰² Wissler, *Blackfoot Bundles*, p. 104.

seven days. I was dressed in very old clothes and continually called upon the sun to have pity on me."¹⁰³

The Gros Ventre¹⁰⁴ and Pawnee¹⁰⁵ data reveal practices that are similar on the whole to those of the Arapaho and Blackfoot. An analysis would add little to the present discussion.

Thus, our Plains data will not permit us to say with certainty that any tribe used mortification in a personal relation with the supernatural. The circumstances of the vision quest were often such, however, as might give rise to the idea that austerities were really helpful in moving the higher powers to have pity on the suppliant. But weeping may serve ends other than that of making oneself pitiable. It may be an earnest of sincerity, as it was, for example, among the Pawnee.¹⁰⁶ Further the conceptual content of the phrase, "to be pitied by the spirits" may vary from tribe to tribe. The Cheyenne seem to have used it largely to express a formal request for a blessing or a favor.¹⁰⁷

FASTING AMONG THE CENTRAL ALGONKIAN

The Crow, according to Dr. Lowie, thought of fasting as a means of obtaining pity. They failed, however, to express the idea in their literature. The Central Algonkian tribes, on the other hand, not only used fasting to "arouse the commiseration" of the supernatural beings, but gave the idea clear expression in their mythology and stories of personal experiences. It is these tribes, notably the Winnebago, Menomini, and Fox, that are most sharply set off against those occupying that great region comprising the area about Puget Sound, the western plateau of Mexico, the Southeast, and even a considerable portion of the Great Plains, in which fasting seems to have been used as an element of quasi-magical technique.

A Winnebago tale tells us that Jobenangiwinxga once fasted for a vision.

So that he might be blessed by the spirits he starved and thirsted himself to death, he made himself pitiable in their sight.¹⁰⁸

At last the spirits spoke to him:

Human being, we bless you. You have thirsted yourself to death and you have made

¹⁰³ *Ibid.*, p. 72.

¹⁰⁴ Kroeber, *The Gros Ventre*, pp. 221; *Gros Ventre Myths*.

¹⁰⁵ G. A. Dorsey, *Pawnee Traditions*.

¹⁰⁶ G. A. Dorsey, *op. cit.*, p. 340.

¹⁰⁷ Linguistic analysis might also reveal a difference between the ordinary expression of compassion and the ritualistic one.

¹⁰⁸ Radin, *Crashing Thunder*, pp. 23, 24.

your heart sore. We feel sad on your account. With life and success on the war-path we bless you.¹⁰⁹

And elsewhere:

I bless you, for you have made yourself suffer very much and my heart has been rent with pity for you.¹¹⁰

Here there can be no ambiguity. The expression is lucid and eloquent. The specific statement of the ethnologist sums up the situation adequately:

The idea seems to be that through fasting and crying you are to put yourself in a pitiable condition and that then the spirits, seeing your state, will pity you and grant you what you have asked.¹¹¹

This Winnebago tendency to read sacred practices in intensely personal terms manifested itself in other departments of their religion. The custom of offering tobacco to the spirits, for example, so widespread among the American Indians, was interpreted by the Winnebago in a way that was entirely in keeping with this tendency. The Winnebago tradition had it that the spirits

long for this weed as intensely as they long for anything in creation.¹¹²

Tobacco the spirits cannot refuse, and once having accepted, the blessing necessarily follows. So also, pitiful humanity was not a character reserved solely for the vision quest. Since the very origin of all things has man been "weak, pitiable in all respects." Thus the idea of humanity as the object of compassion was made one of the fundamental concepts of the Winnebago, and also of the Fox religion.¹¹³ In both cases the weakness of mankind was an original defect of its creation.

The Fox, who occupied land contiguous to the Winnebago, show a similar ideology and technique. The ancestor of the Bear gens wandered about in the forest weeping and wailing in quest of the secrets of life. He offered tobacco to the spirits, and

Verily at the time . . . he had nearly starved himself to death, precisely as soon as . . . he had been loudly heard everywhere, . . . soon he was able to make . . . a buffalo sorrowful. And he was blessed for exactly the reasons he wailed. "I bless you, he was told, as you do not know about your life. Verily I so bless you that you will reach old age, and I will continue to will disease away from you. . . ." ¹¹⁴

¹⁰⁹ *Ibid.* p. 24

¹¹⁰ Radin, *The Winnebago* p. 304.

¹¹¹ *Ibid.* p. 166

¹¹² Radin, *Crashing Thunder*, p. 61.

¹¹³ Michelson, *The Buffalo Dance*.

¹¹⁴ *Ibid.*, p. 31.

The Menomini also used the fast in a personal relation with the supernatural.¹¹⁵ The spirits were moved by the physical suffering of the pubescent boy during his vision quest. They took pity on him and rewarded him for his suffering.¹¹⁶

No'se (grandchild), you have come to me according to my command, for I was troubled in heart when I saw you fasting and suffering, growing light in flesh and thin in body. Now you have gained great honor, for I have taken pity on you.¹¹⁷

The discussion has thus shown: (1) that the use of fasting in a personal relation with the supernatural was, as far as the present data indicate, peculiar to the Central Algonkian; (2) that with respect to the particular elements that were the object of our investigation, there was no one attitude that may be said to have characterized the entire Plains area; and (3) that the fast and the pitiful suppliant are two essentially unconnected elements of religion in North America.

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¹¹⁵ The Menomini also considered the fast a purificatory rite and a test of bravery: Skinner, *Social Life of the Menomini*, pp. 42, 43, 48.

¹¹⁶ *Ibid.*, pp. 42, 43.

¹¹⁷ *Ibid.*, p. 98.

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KIOWA-CROW MYTHOLOGICAL AFFILIATIONS¹

By ERMINIE W. VOEGELIN

THE following paper is a brief summary of the method used and results obtained from a study of the affiliations of Kiowa mythology with the mythologies of five other Plains tribes. The study was made primarily in order to determine whether the similarities to be found in the mythologies of the Kiowa and the Crow are due merely to a general Plains influence or to a former close historical alliance of the two above-mentioned tribes; an attempt was also made to determine the relative strength of the northern and southern affiliations of Kiowa mythology, but owing to the comparative paucity of myth material collected for some of the "key" tribes, the results obtained from this part of the study yielded little of definite value and are not included in the present paper.

In *The Calendar History of the Kiowa Indians*, James Mooney locates the Kiowa point of traditional origin as being close to the present Butte City, Montana,² and also states that after the Kiowa moved south-eastward, they formed their first tribal alliance with the Crow Indians.³ Dr. Elsie Clews Parsons, in her introduction to *Kiowa Tales*, also refers, on Mooney's authority, to "a former intimacy" between the Kiowa and the Crow.⁴ But if we examine the evidence for assuming the Kiowa to have been (1) located in the north and (2) former allies of the Crow, we find the assumptions have to be based solely on Kiowa historical traditions; such native traditions, as Dr. Robert H. Lowie has pointed out, have a certain significance,⁵ but leave much to be desired as authentic statements of fact.⁶

The method adopted to determine objectively whether the Kiowa and Crow mythologies are so similar as to indicate a former close alliance be-

¹ Presented, under the title, *Mythological Elements Common to the Kiowa and Five Other Plains Tribes*, in partial fulfillment for the degree of Master of Arts at the University of California at Berkeley, December, 1931. Revised and summarized June, 1932.

² See James Mooney, *The Calendar History of the Kiowa Indians*, BAE-R 17, Part 1 153 and pl. 73, Washington, 1898.

³ Mooney, *ibid.*: 153.

⁴ Elsie Clews Parsons, *Kiowa Tales*, MAFLS 22·XIX fn., New York, 1929.

⁵ Robert H. Lowie, *Oral Tradition and History*, AA 17 597 ff., and, *Oral Tradition and History*, JAF 30 161 ff.

⁶ Examples of the unreliability of historical traditions are probably numerous in American Indian mythology. Two such were found in the present study; the Kiowa and the Crow both have a story relating to a division of the tribe arising from a quarrel over the sharing of game. The Kiowa say "the two [Kiowa] bands separated" (Mooney, *ibid.*: 153) or that "one

tween the two tribes, was as follows. Each Kiowa myth was outlined in considerable detail, and all Crow identities or general similarities to the Kiowa material, noted. Next, in order to test the relative strength of the Kiowa-Crow affiliations, all identities or general similarities to the Kiowa material, found in the mythologies of four other Plains tribes, were likewise noted.⁷

The presence in the mythologies of the five tribes under consideration, of motives, incidents or details identical with the Kiowa material (which was always taken as the norm in this study) was indicated in the proper column by an X, and each X counted one full point. If the motives, incidents or details were not identical, but on the other hand variations of the same basic idea, their occurrence was indicated by an (X) and their rating fell to half a point.

In order not to complicate matters too far, the presence of motives or incidents in a tale different from the tale in which they appeared in the Kiowa mythology, was not indicated. Generally speaking, when such material was found, it was either absolutely identical with the Kiowa material, which would warrant its being counted a full point, or so dissimilar as to forbid its being rated at more than half a point, wherever its occurrence.

The following outlines of two Kiowa myths illustrate the method explained above.

chief led his band away and they became the Crow Indians" (Parsons, *ibid.* 89). The Crow tell a very similar story concerning a quarrel over game, but relate it to their separation from the Hidatsa (Robert H. Lowie, *Myths and Traditions of the Crow Indians*, PAAM 25. 272, New York, 1918).

Similarly the Kiowa have a story of a young child feeding a Pawnee (Ute, variant) enemy scout, this act causing the Kiowa later to "make relatives" of the Pawnee (Parsons, *ibid.* 82). The Blackfoot tell a similar story, except that the Blackfoot version is devoid of historical details (Wissler, Clark and Duvall, *Mythology of the Blackfoot Indians*, PAAM 2. 160, New York, 1909; C. C. Uhlenbeck, *Original Blackfoot Texts*, VKAWA 13. 200).

⁷ The tribes selected as "controls" on Kiowa-Crow similarities were the Arapaho, Gros Ventre, Blackfoot and Cheyenne. Not only are these four groups so-called typical Plains tribes (see Clark Wissler, *North American Indians of the Plains*, 13, 19-20, New York, 1920), but also, according to Mooney's map of Kiowa migrations, raids and visits, the Kiowa have at some time been in contact with each of the four. Of the other tribes named by Wissler as being typically Plains, the Kiowa and Crow were of course also included for detailed study, the Assiniboine were not, because of their northeastern location and lack of Kiowa contacts, the Teton-Dakota were not, because the Bushotter collection of Teton-Dakota myths was not available, and the Comanche were not, because no mythological collection of any size is extant for them.

1. HOW THEY STOLE THE SUN AND PLACED IT, HOW THE KIOWA BECAME PARAMOUNT⁸

Synopsis: Distant people have light, which the culture hero determines to obtain. He is aided in his quest by animals who, when the sun has been stolen, spell each other in a race to take it back to the people. The thieves win by a close margin, and the culture hero receives the light and tosses it up into the sky.

The Kiowa are paramount because one of their people dared to dive into a body of water out of which protruded sharp-pointed objects. (No comparative material was found for this latter)

Outline of Incidents

	<i>Kiowa</i>	<i>Crow</i> ⁹	<i>Arap. Gros V.</i> ¹⁰	<i>Black.</i> ¹¹	<i>Chey.</i>
A. Theft of Light		(X)	(X)	(X)	
1. Distant people have light		(X)	(X)		
2. Hero decides to steal light		(X)	(X)	(X)	
3. Four helpful animals		X			
4. Prairie Chicken (Rabbit, variant)		X			X
5. Coyote (Deer, variant)		X			
6. Hawk (Fox, variant)					
7. Hawk (Chicken Hawk, variant)					
8. One joins owners of light		(X)	(X)	(X)	
9. Light stolen		(X)	(X)	(X)	
10. Thief runs until fagged		X			
11. Animals each run in turn		X			
12. Pursuers close behind thieves		X			(X)
13. Light given culture hero		(X)			
14. Hero tosses it up 4 times					
15. Regulates day and night		(X)			
16. Explanatory		(X)			
TOTALS		10	2.5	3.5	

2. WHITE CROW HIDES AWAY THE ANIMALS AND IS TRICKED BY SENDEH AND SPIDER OLD WOMAN¹²

Synopsis: A man who can turn into a white crow keeps all the game hoarded away. The culture hero transforms himself into a pup, gains ingress to the man's hiding place for the game, and scatters the animals. Then he transforms himself

⁸ Parsons, *ibid.*: 13-14.

⁹ Stephen Chapman Simms, *Traditions of the Crows*, FM 2: 282, Chicago, 1903. In the Crow version summer, not light, is stolen for the benefit of a youth; this is radically different from the Kiowa material, and hence many of the Crow incidents and the motif itself are checked as (X).

¹⁰ Alfred L. Kroeber, *Gros Ventre Myths and Tales*, PaAM 1 67, New York, 1908. Here, as in the Crow tale, it is summer, not light, which is stolen for a crying child.

¹¹ John Maclean, *Blackfoot Mythology*, JAF 6: 166. Prairie chicken steals summer bag for culture hero.

¹² Parsons, *ibid.*: 21; Mooney, *ibid.*: 349.

into an elk-skeleton and catches the miscreant White Crow, who is punished, after a false escape, for his misdeeds.¹³

Outline of Incidents

<i>Kiowa</i>	<i>Crow</i> ¹⁴	<i>Arap.</i> ¹⁵	<i>Gros V.</i> ¹⁶	<i>Black.</i> ¹⁷	<i>Chey.</i> ¹⁸
A. Hoarded Game	(X)	X	X	X	X
1. Starving camp; game unprocurable	X	X	X	X	X
2. Man assumes guise of white crow		X		(X)	
3. White Crow warns game		X		(X)	X
4. Game hidden underground	(X)	X	(X)	X	(X)
5. People smell fat		(X)			
6. Suspect man in camp		(X)			
7. Culture hero spies on man	(X)	(X)		X	
8. Animal helpers		(X)		(X)	
9. Hero becomes pup		(X)	X	X	
10. Forgets whiskers					
11. Child makes pet of pup		X	X	X	
12. Father (White Crow) demurs		X	(X)	X	
13. But child keeps pup		X	X	X	
14. Child shows pup hoarded game		(X)	(X)	X	
15. Pup scatters game	(X)	X	X	X	
16. Pup becomes cocklebur				X	
17. Escapes on animal		X	X	X	
18. White Crow threatens people				X	X
19. Hero becomes animal corpse	(X)			X	X
20. White Crow suspicious				X	(X)
21. Pecks at head of corpse				X	(X)
22. "Corpse" almost cries for help				X	
23. White Crow seized by corpse		X		X	X

¹³ See Franz Boas, *Mythology and Folk-Tales of the North American Indians*, JAFI 27: 395, in which he states that "the benefactions bestowed by the culture hero (when identified with Trickster) are not given in an altruistic spirit." In the two Kiowa myths used as examples above, the culture hero is identified with Trickster; however, in both these tales there is no indication that Sendeh (the Kiowa culture hero-trickster) is benefited by his altruism. For a further discussion of Boas' point see Robert H. Lowie, *The Hero-Trickster Discussion*, JAFI 22: 431 ff.

¹⁴ Lowie, *Myths and Traditions of the Crow Indians*, 100, 103. Game is taken from the people by a celestial being as punishment for wife's infidelity; people regain game by scattering buffalo chips.

¹⁵ George Amos Dorsey and Alfred L. Kroeber, *Traditions of the Arapaho*, FM 5: 275, 318, Chicago, 1903.

¹⁶ Kroeber, *ibid.*, 65.

¹⁷ George Bird Grinnell, *Blackfoot Lodge Tales*, 145, New York, 1892; Uhlenbeck, *ibid.*, 164; Wissler and Duvall, *ibid.*, 50.

¹⁸ George Bird Grinnell, *Falling-Star*, JAFI 34: 311, and *By Cheyenne Campfires*, 206, New Haven 1926.

24. Taken to camp by culture hero	(X)		X	(X)	
25. Given to Spider Old Woman					
26. Entangled in latter's web	(X)			(X)	
27. Apparent escape; more threats			X	(X)	
28. Captured; scorched black	X		X	(X)	
29. Explanatory	X		X		
30. Characters; culture hero unaided			X		
TOTALS	3.5	17	9.5	23.5	9.5

Pursuing this method for some 44 Kiowa myths, whenever the Crow, Arapaho, Gros Ventre, Blackfoot or Cheyenne mythologies offered material comparative to the Kiowa material, the following totals were obtained:

	<i>Crow</i>	<i>Arap.</i>	<i>Gros V.</i>	<i>Black.</i>	<i>Chey.</i>
General Totals (X plus (X))	303.5	310	200.5	281	177.5
X (identities) Totals	227	232	154	232	134
Number of Myths (variants each counted as separate myth)	143	164	56	280	120
Ratio of General Totals to Number of Myths	2.12	1.89	3.57	.99	1.47
Ratio of X Totals to Number of Myths	1.59	1.41	2.75	.85	1.11

From the above figures, it is apparent that Kiowa mythology does not show a markedly specific affiliation with Crow mythology. The Crow ratios of points to number of myths are in fact strikingly overtopped by the Gros Ventre ratios; there is of course the possibility that this may be due to the comparative smallness of the Gros Ventre collection, just as the Blackfoot figures may be abnormally low, because of the large total of myths consulted for the Blackfoot. But a consideration of the Arapaho ratios as compared with the Crow ratios, shows the two sets to be very nearly equal, despite the fact that the total of Arapaho myths consulted is one-seventh as large again, as the total of Crow myths.¹⁹ This near-equality in the ratios of the Crow and the Arapaho leads to the conclusion that the similarities to be noted between the Kiowa and Crow mythologies were due, not to a former close association of the Kiowa with the Crow, but rather merely to a general Plains influence as regards Kiowa mythology.

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¹⁹ Moreover, the Arapaho collection by Dorsey and Kroeber contains a much larger number of variant versions than do either Lowie's or Simms' Crow collections. In the majority of cases, both collectors for the Arapaho secured versions of the same tale; many of these versions are alike in detail, but were counted separately in totaling the number of myths consulted.



Zelia Maria Magdalena Nuttall

ZELIA NUTTALL

By ALFRED M. TOZZER

ZELIA MARIA MAGDALENA NUTTALL,¹ when a child, was presented by her mother, who was born in Mexico, with a copy of Lord Kingsborough's great work on Mexican antiquities. These volumes immediately awakened her interest, and this interest developed into a life-long quest for information on Mexico, its archaeology and its early history.

She was born in San Francisco, California, September 6, 1857, and she died at Casa Alvarado, Coyoacan, Mexico on April 12, 1933. She was the daughter of Dr. Robert Kennedy Nuttall and Magdalena, daughter of John Parrott, banker, of San Francisco. Her father, descended from an old Lancashire family, was born in Ireland and, after extensive travels, arrived in San Francisco from Australia in 1850. He practiced medicine in San Francisco until 1865 when, owing to ill health, he took his family to Europe where they remained until 1876 when they returned to San Francisco. Mrs. Nuttall was then nineteen years of age and had acquired an education in France, Germany, Italy, and England, where she studied at Bedford College, London. This gave her the versatility in languages which was to play a great part in her later life.

In 1880 she married Alphonse Louis Pinart of Marquise, Pas-de-Calais, France, who had been sent out on an anthropological expedition to the Pacific from France. He also traveled from the Aleutian islands and Alaska to the coast of South America, making extensive collections of archaeological and ethnological specimens. His special interests and his publications are mostly, however, on linguistics and folk-lore.

After his marriage, he and his wife made a journey to the West Indies, France, and Spain, when they returned to San Francisco where their only child, Nadine, was born in 1882. The marriage proved unhappy. A deed of separation was executed in 1884 and in 1888 a divorce was granted to Zelia, the decree allowing her the custody of the child and the resumption of her maiden name for herself and daughter. The daughter, now Mrs. Arthur C. Laughton, three grandchildren and a brother, Professor George H. F. Nuttall, Sc.D., F.R.S., the distinguished scientist of Cambridge, England, survive.

Mrs. Nuttall's first visit to Mexico was in 1884-1885 in company with her mother, younger brother, sister, and her daughter. Here she spent

¹ I am indebted especially to Professor G. H. F. Nuttall and to Mrs. Arthur Laughton, to Dr. George Vaillant and to Mrs. Elsie McDougall for facts contained in this paper.

five months; she worked in the National Museum and made her first collection of small terracotta heads from San Juan Teotihuacan which formed the subject for her first paper published in 1886. After living in Baltimore for a year she went to Dresden in 1886 and resided there until 1899. This period was broken by a trip to California and travels in Italy, Sweden, Spain, Switzerland, and Russia. In 1902 she finally settled permanently in Mexico with an occasional trip to Europe and to the United States, and one to Alaska and to Honolulu. Twice during this period she visited some of the ruins of Yucatan.

For forty-seven years she was Honorary Assistant in Mexican Archaeology at the Peabody Museum of Harvard University. In his annual report for 1886, the Curator of this Museum, Professor F. W. Putnam, wrote,

It is with pleasure that I am able to state that Mrs. Zelia Nuttall has become one of the collaborators of the Museum, with special reference to Mexican archaeology, a field in which, by family associations and long residence in the country, she is able to perform thorough and important work. Familiar with the Nahuatl language, having intimate and influential friends among the Mexicans, and with an exceptional talent for linguistics and archaeology, as well as being thoroughly informed in all the early native and Spanish writings relating to Mexico and its people, Mrs. Nuttall enters the study with a preparation as remarkable as it is exceptional

At the inauguration of a series of Papers of the Peabody Museum in 1891, she contributed the first number of the first volume a study of a famous and historical feather head-dress which she had seen in the Imperial Museum of Natural History in Vienna.

In 1901, after thirteen years of study, she finally published her largest work, "The Fundamental Principles of New and Old World Civilizations." She started with a study of the astronomical origin of the Swastika and the worship of the Pole Star in Mexico. She extended the scope of her investigations to the Zuñi in New Mexico and to Central America and Peru. Then she crossed the Pacific and Eastern Asia to Asia Minor; Egypt, Greece, Rome and western Europe were finally included in her investigations. She distinctly states that she did not wish to propound any theory, but she implies a world-wide worship of the Swastika, as the symbol of the four quarters and of the North Star as the central stable power, when she writes,

It will seem that the outcome of my researches corroborates the opinions differently expressed by a long line of eminent investigators, who have been constantly discovering and pointing out undeniable similarities and identities between the civilization of both hemispheres.

These ideas fell upon the receptive ear of Professor Putnam, who held

throughout his life a conviction that the Americas received their greatest cultures through Asia, and he was very proud that his Museum could publish her paper.

The book was one of the last to be written by an acknowledged Mexican archaeologist on this connection between the New and the Old World. In spite of its "archaic" character, it had a considerable influence in attracting several students to the Middle American field.

Mrs. Nuttall's fame rests more firmly upon her ability to find lost or forgotten manuscripts and bring them to the attention of scholars. The most famous case was the Zapotecan manuscript found in the possession of Lord Zouche of Haynworth. Mrs. Nuttall traced this codex from the Monastery of San Marco, Florence, to its later owner. At Professor Putnam's insistence this manuscript, as published by the Peabody Museum, was named "Codex Nuttall." Still earlier, in 1890, in the Biblioteca Nazionale Centrale in Florence, she re-discovered the so-called Codex Magliabecchiano XIII. 3. This was published in 1903 by the University of California under the title, "The Book of the Life of the Ancient Mexicans." She also found in the National Library at Madrid in 1911 an anonymous unfinished manuscript, written about 1559, on the history of the Conquest of Mexico which she had copied.

Mrs. Nuttall's keen and experienced eyes are no better shown than in her discovery of the Drake manuscripts in the National Archives of Mexico when she was searching for the earliest records of the trials of Mexicans for witchcraft by the Inquisition. Not content with this find, she sought in New York, in the Spanish, Italian, and French archives, and in the Bodleian Library, British Museum and Public Record Office in London for other unpublished Drake and Hawkins papers. The results of this extended search were published by the Hakluyt Society, London, in 1914. An example of her thoroughness is seen when she made a trip on a freight steamer to Alaska in 1916 to visit Juan de Fuca strait which she felt sure she had identified as Drake's "Bay of New Albion."

It should be recorded that it was Mrs. Nuttall who first recognized the so-called archaic culture. Shortly after 1902 when she settled in Mexico permanently she discovered an unfamiliar type of figurine under a stratum of lava near her own home. In 1906 she recovered one complete seated figurine of the archaic type. In 1909, in a visit to Bishop Plancarte in Cuernavaca, she recognized the same type in his collection from Morelos, Guerrero and Hidalgo. Independently they had both come to the conclusion that these objects antedated any of the Aztec remains. The Bishop, in his "Tamoanchan" published in 1911, describes the early remains and mentions the

coincidence of discovery. A year earlier Mrs. Nuttall had found the same general type in Panuco, near Tampico.

A knowledge of the writers contemporary with the Conquest and other early authorities is an indispensable adjunct to all archaeological research. This knowledge was held by Mrs. Nuttall to a remarkable degree. Almost all of her papers show her great erudition along this line.

In 1902 Mrs. Nuttall purchased the famous house which stood on the site of one once belonging to Alvarado, a name which figures in the Conquest of Mexico second only to that of Cortes. Here in an environ of Mexico City, in this historic house and beautiful, full of treasures, with the famed beauty of its gardens for a setting, Mrs. Nuttall played the gracious hostess to all visiting archaeologists and people of note who came to Mexico. The house, the gardens, and its brilliant chatelaine have figured in the annals of many travellers.

Her intense love for flowers and the long hours when she worked over them made her an authority on Mexican gardens. A series of papers and an unpublished semi-popular manuscript make this very plain. A visiting archaeologist would as often find her training her roses as at work at her desk. She would continue her work and keep up at the same time a delightful talk on the newest "finds" in archaeology. Her botanical interests were wide. She collected seeds of ancient Mexican food plants not known to the Department of Agriculture for cultivation in the United States, she helped to introduce the Hawaiian taro plant into the State of Orizaba where the climate seemed suitable, and she made a large collection of native Mexican medicinal herbs.

It was in her own gardens in 1923 that, under the auspices of the Dirección de Antropología and Señor Manuel Gamio, she made the first complete study of Aztec pottery in a given site.

During the last years of her life she became much interested in the question of a sun cult throughout Middle America and Peru. She believed that round towers such as the Caracol at Chichen Itza, the Maya subterranean chultunes and a "neglected mound" at Monte Alban were all a kind of gnomon made to record the shadowless passage of the sun at noon through the zenith on a day in May and she interpreted this astronomical phenomenon as the origin of a belief that the beneficial descent of the rain god came at this moment. Proof to the people of this idea was afforded by the appearance at this time of the summer rains. Characteristically, she summoned to aid her in this theory a mass of evidence from the early records. She spent much effort in having this May day celebrated by the children of Mexico as the New Year Festival of their ancestors with games and feasting around

a gnomon set up in the plazas or in the courtyard of houses. Not satisfied with having Mexico carry out this festival, she entered into negotiations with several Peruvian associations to have the New Year Festival celebrated there, thus reviving a former "intellectual unity among the ancient peoples of tropical America."

Among her last papers was an attempt to identify some of the golden jewelry found by Dr. Caso at Monte Alban as showing that here was the tomb of Cuauhtemoc, the last of the Aztec kings, who died while a prisoner in the hands of Cortes in his memorable march to Honduras. Here again she summoned the ancient authorities to buttress her theory. She left several uncompleted manuscripts, among them one describing the famous battle at San Juan de Ulua based on over seven hundred pages of documentary material which she had copied in Spain in 1911-12. She planned this as a companion volume to her *New Light on Drake*.

Mrs. Nuttall's vivid mind, independent will, and a remarkable belief in the truth of her theories caused her life to be punctuated with controversies. There was the altercation with the Duc de Loubat over the publication of the Magliabecchiano Codex which, although discovered by Mrs. Nuttall, received its first publication in a Loubat edition. Another more famous one, with right entirely on her side, was with the late Leopoldo Batres, a former inspector of ruins of Mexico. The extent of her righteous grievance is well documented in a paper by her on "The Island of Sacrificios," which, in some ways, is her greatest contribution to the knowledge of the field archaeology of Mexico.

In addition to the connection of forty-seven years with the Peabody Museum at Cambridge, and twenty-five years as Honorary Professor of Archaeology at the National Museum of Mexico, she was for a long time a member of the Advisory Council of the Department of Anthropology at the University of California and field director of the Crocker archaeological field research. She was a member of the International Jury of Awards at the Chicago Exposition in 1893 and at the Louisiana Purchase Exposition in 1904, and was awarded gold medals at the Historical Exposition in Madrid in 1892, at Chicago in 1893 and at the Buffalo Exposition in 1901. She was a Fellow of the American Anthropological Association, the American Ethnological Society, the American Geographical Society, the American Association for the Advancement of Science, the Hispanic Society of America, and the Royal Anthropological Institute. She was a member of the American Philosophical Society, the American Asiatic Association, the Numismatic and Antiquarian Society of Philadelphia, and the California Academy of Sciences, and she was a corresponding member of foreign societies in Paris, Geneva, London, Rome, Stockholm, Lima, and Mexico.

She had a vivid personality and was the very last of the great pioneers of Mexican archaeology. An empty Casa Alvarado will leave a void in the life of Mexico City. It was literally a mecca for all visitors to Mexico. A day seldom arrived without its complement of letters of introduction to Madame Zelia Nuttall from all over the world. Her abundant hospitality, her solicitous care that her visitors miss nothing of interest in Mexico, and her carefully pre-arranged picnics to see native life on the lagoons of Xochimilco went on almost literally to the day of her death. Not only as an archaeological student with a profound knowledge of early authorities was Mrs. Nuttall famous, but she had an intimate acquaintance with Colonial history and Colonial architecture. She was never weary of pointing out the architectural details of her own historic house and in its gardens she had a large collection of native trees, shrubs and flowers. Not only in Mexico, but at the many American and European international congresses she attended she was always a center of interest, not only for her majestic presence, her wit, and her knowledge, but for her great ability to speak all the European languages. She was a remarkable example of nineteenth century versatility.

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PEABODY MUSEUM,
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ARCHAEOLOGICAL FIELD WORK IN NORTH AMERICA DURING 1932

This is the eleventh of a series of annual statements covering field activities in North American archaeology assembled by the Committee on State Archaeological Surveys of the Division of Anthropology and Psychology of the National Research Council. It is a compilation of brief reports sent to the Committee for this specific use by the representatives of most of the institutions and organizations supporting such field work on this continent. Its purpose is to record briefly the work done and the results obtained during the past field season. The more complete, technical reports of these activities will be found in the several publication media used by the organizations concerned.

Owing to economic conditions necessitating adjustments to curtailed budgets, a number of organizations are devoting more time to laboratory research, and less to field work. The total number of groups participating in archaeological field work is somewhat less than last year, in spite of the addition of some new organizations to the list at the end of this report. This list contains the names of the cooperating organizations as well as those which sent in reports.

The geographical area covered by this report does not include that part of Mexico, the cultures of which are more closely related to the complex cultures of Middle America than to those of the Southwestern United States.

The Committee wishes to record its appreciation of the cooperation which has made this review possible, and requests that any suggestions concerning ways and means of increasing its usefulness be sent to the Chairman.

Alabama.—During 1932 the Alabama Museum of Natural History resumed the excavations at Moundville and examined a number of other sites. At the Moundville site, work was done in the vicinity of Mound E and along the ridge south of Mound D. These portions of this very rich site yielded 510 burials, with which were associated over 300 pottery vessels, in the form of shallow bowls, water bottles, and handled pots, bearing a variety of designs. Examples of work in shell were abundant, and a number of copper and stone artifacts were secured, among which were four more stone discs. The collections secured totaled 1632 catalog numbers. The other sites examined were at Snow's Bend, along the Warrior river; on Hobb's island, on the Tennessee river; the Bottle creek group; the Florence mound on the Tennessee river; and the Forkland mound, near the junction of the Warrior and Tombigbee rivers. The first three of these sites yielded the most information, in the form of pottery vessels, shell, bone, copper and stone artifacts, and colored pigments, all associated with burials. The culture revealed by the Hobb's island site differs from that of other sites in having a cruder type of pottery, but a well-developed technique in shell and stone work.

W. B. Jones,
Alabama Museum of Natural History

The members of the Alabama Anthropological Society, during the past fall, have worked primarily in a site near the mouth of the Coosa river. Evidences of at least three cultures have been noted, although superimposed strata have not been discovered. The site has historic associations, and late intrusive burials have been found among and even below apparently very old graves in which shell objects occur. We have concluded that urn burials are not as old as a type of bundle burial which apparently was placed in a basket or skin container. The human bones, except when found within vessels, are far too decayed for recovery. In the northwest corner of the acreage now being worked, some vessels have been found containing children's bones accompanied by earthenware toys, a type of burial furniture not previously recorded under these conditions.

Peter A. Brannon,
Alabama Anthropological Society

Alaska.—Dr. Ales Hrdlicka continued his field work on Kodiak island, surveying ruins on the coast and excavating a prehistoric village site at Uyak bay, which yielded a large amount of material and skeletal remains indicating two racial types.

James A. Ford wintered at Point Barrow, Alaska, and during the summer excavated several old Eskimo sites in the vicinity. His work resulted in clarifying to a considerable degree the relative chronological positions of the Old Bering Sea, the Birnirk, Punuk, and Thule cultures.

Walter Hough,
U. S. National Museum

During 1932, the Alaska Agricultural College and School of Mines continued its project, under the direction of Mr. Otto Wm. Geist, of investigating the midden of the ancient village site of "Kukuliak," or Kukulik, on St. Lawrence island. The purpose of the excavation has been to secure a stratigraphic record of the deposits. A cut through the midden, averaging 30 feet wide, about 80 feet long, and $9\frac{1}{2}$ feet deep, included during 1932, a large strip of ground at the rear covered with debris which had been previously worked over by Eskimo "old ivory hunters" who had been digging parts of old village sites on St. Lawrence island since 1924. The entire length of the excavation now measures 190 feet. Very few specimens were found in the portion which had been searched by the Eskimo ivory hunters. Only one recent house was included in the cut. It contained 35 skeletons, in a fair state of preservation, representing Eskimos who had perished of famine and pestilence during the winter of 1879-1880. Most of the implements and utensils found here were in a bad state of preservation. Beneath this house were encountered the frame work and outlines of two older ones. Neither contained cultural specimens with decorations. The bottom of the third house was encountered at a depth of nine feet, five inches. West of this house and a few inches deeper, was found the demolished frame work of a fourth house containing a few specimens of an intermediate culture. Outside this frame work and a few inches deeper were found a few "Old Bering Sea" culture specimens represented by butterfly-like carvings, and seal harpoons, with curvi-

linear etchings. Near these was found a damaged human skull, which may belong to the same period. The outline of a possible frame work of a fifth house was encountered just before the operations were stopped because of weather conditions. It is hoped that this project may be completed during 1933.

Charles E. Bunnell,
Alaska Agricultural College
and School of Mines

The third season of archaeological investigation in southwestern Alaska, conducted by Frederica de Laguna of the University Museum, Philadelphia, was spent chiefly at one site in Kachemak bay, Cook inlet. At this place are remains of five occupations, from the modern Athabaskan Indian village, inhabited only fifty years ago, to the lowest of four prehistoric Eskimo deposits, now all buried under beach gravel. The land has sunk about 15 feet since the first habitation. The archaeological material shows a development of the Kachemak bay culture through three or four stages. Although this culture was basically Eskimo and is closely related to that of the Pacific Eskimo and Aleut when first encountered, it contains a rich mixture of Indian elements, especially in the third or final stage. These seem to link the Cook inlet Eskimo with the prehistoric Indians of British Columbia. This third stage in Kachemak bay also seems to be analogous to the Punuk phase found by Collins on St. Lawrence island. Apparently the basis of the Kachemak bay culture was a rather generalized Eskimo culture, in which a number of types known from the Thule culture of Canada played an important part. This supports Mathiasen's thesis that a Thule, or we should probably say a Thule-like, culture was the basis of all the Alaskan phases. Thus, the harpoon heads of the first period in Kachemak bay are all of the simplest Thule type, and in none of the stages do the elaborate Old Bering Sea, Punuk, or Birnirk forms appear. A great many of the Kachemak bay types belong to all the North Pacific region from Neolithic Japan on the one hand to southern British Columbia, or even further south, on the other. The chief differences between the three stages of culture are in the stone technique, which shows a transition from chipping to polishing and sawing. Grooved and notched stones also show a development.

To the lower part of the third or last stage of the Kachemak bay culture belong the stone lamps with a human figure in the bowl, as was proved by the finding of such a lamp *in situ*. This discovery supports J. Alden Mason's theory of an Eskimo origin of these lamps. The style of the decoration, however, is closely paralleled by that of the stone vessels with human figures from southern British Columbia. It seems likely that the plain knobs found in Thule culture lamps and on archaeological lamps from southwestern Alaska have been elaborated into the human figure under Indian influence from the south. A lamp with whales in the bowl is also known from Kachemak bay. The most interesting art of these Eskimo was painting on the walls of rock shelters and caves. The pictures in three caves on lower Cook inlet were traced. They are apparently painted with hematite mixed with animal fat, and are all in silhouette. They depict men in umiaks and kayaks, bears or anthro-

pomorphic figures, whales of several different types, seals or other sea mammals, some with bladder-darts in their sides, a swan, etc. Such paintings are also found on Kodiak island, where the archaeological culture was very similar to that of Kachemak bay. It is possible, judging by reports of the natives, that these pictures were connected with hunting magic, and were, perhaps, made by whale-hunters.

J. Alden Mason,
University Museum, Philadelphia

Arizona.—Dr. F. H. H. Roberts, Jr., of the Bureau of American Ethnology, spent the months from June to September in continuation of work started in 1931 at a site three and a half miles south of Allantown, Arizona. During the course of the investigations, three pit houses, 12 granaries, and two brush shelters belonging to the Pueblo I period were excavated. In addition, a unit house of the Pueblo II phase was uncovered. This structure proved to be a typical example of the small house and kiva combination which has been considered characteristic of the period. Work in the refuse mound uncovered 64 burials and yielded a good collection of specimens for the museum.

M. W. Stirling,
Bureau of American Ethnology

A group of 15 students of the Department of Archaeology of the University of Arizona, and the Arizona State Museum, together with John H. Provinse and myself, spent the month of June and the first week of July uncovering an ancient pueblo and burials in Big Chino valley, some 40 miles north of Prescott, Arizona. The site showed an occupation by ancient pit dwellers of the transitional pit house period, and also a surface pueblo of 12 rooms, probably two stories in height in the center, built of massive walls two to two and a half feet thick of caliche strengthened with a few stones. The stone, bone, and shell implements and ornaments are similar to those found in late pueblo cultures elsewhere, but the pottery is a crude ware with careless decoration in black-on-grey and seems to have originated in that section. We are calling it "Prescott Black-on-Grey." The balance of the summer was spent on a large pueblo, called by the Apache "Kinishba," four miles west of Fort Apache, the excavation of which was begun in the summer of 1931. Thirty-five more rooms and some 90 burials were uncovered. This season's work disclosed that this pueblo was a great center of ancient activity. The implements and domestic utensils reflect the influence of Little Colorado and Gila pueblos. The pottery is remarkable for its variety and the beauty of its decoration. During the school year, week-end trips to nearby pueblos serve as a practical introduction to field work for the students majoring in American archaeology.

Byron Cummings,
Arizona State Museum
University of Arizona

The Phoenix Archaeological Commission resumed excavations of the municipally owned ruins of Pueblo Grande in September, the beginning of the local season. The ruin covers an area of 300 by 150 feet, and rises about 30 feet above the limits of the talus slope. It marks the architectural feature of a community of smaller houses which formerly surrounded this central structure and which covered an area of about 50 to 75 acres, as estimated by earlier observers. These dwellings were of a perishable construction and have long since been covered up by modern improvements. The archaeological phase of this project, has, so far, consisted of trenching and sinking test holes in order to determine the architectural history of the structure. The results show a massive stone and adobe construction with outside walls measuring 10 feet in thickness and inside walls about three feet thick, dividing the lower levels of the ruins into rooms and long passage ways of varying dimensions. The outside walls really consist of two stone walls, each three feet thick, with four feet of fill between, upon which the upper walls were built of adobe only about 18 inches thick. These upper walls belong to the last occupational level and here only are found materials showing an orderly abandonment. The underlying levels are marked by a number of floor-levels, each with its individual walls, and each filled in by the occupants who established themselves again on top of the fill, sometimes only a foot or so deep, but in one instance over 10 feet deep. The reason for these successive moves upward may be drawn from a study of past and present irrigation in this valley. The peculiar architectural development of Pueblo Grande may be ascribed to a rising water table that gradually rendered the lower levels unfit for either storage or dwelling purposes, and which eventually was the cause of the total abandonment of the whole valley with its 20 or more large communities. The pottery types and other artifacts are the same in kind and nearly constant in percentage from the lowest level to the top of the mound. The material culture of this region is too well known, in general, to need any comment, but it may be well to point out the difference in burials found at Pueblo Grande and in similar ruins in this region. The typical form was cremation with urn burials of the calcined remains. But in connection with the last occupied levels of the large, and some small, community structures of stone and adobe are found the skeletal remains of uncremated burials. This type, on the other hand, has not been observed in the typical cremation areas. Pottery and other offerings are of the same type in both forms of burial. The observations lead to a theoretical conclusion that the custom of cremating the dead was abandoned after the region was forsaken by the main population, and that the last occupants of the top levels of the mounds were reduced in numbers as well as in ability to secure food, and for physical reasons were unable to migrate to new and distant homes; and also, unable or unwilling to carry on the practice of cremating their dead. Owing to the total absence of "readable" timber in any of the local ruins, no accurate dates can be given for the occupation of the region during the irrigation period, and so far the local work has produced no evidence of any earlier occupation of the Pueblo Grande site. Frequent occurrence, however, both locally and in the region to the north, of cross-types of pottery generally conceded to come

within the Pueblo III and Pueblo IV horizons, show that the local types belong to a comparatively recent occupation. The length of occupation, if based upon the figures of potential dangers of water-logging of all tillable areas, must be conceded to be relatively short.

Odd S. Halseth,

Phoenix Archaeological Commission

Mr. Haury, the Assistant Director of Gila Pueblo, conducted excavations in the Canyon Creek ruin in the Upper Salt drainage, 30 miles east of the Sierra Ancha. He was assisted by Russel Hastings of the Pueblo staff, and Solon Kimball, a student at Harvard. The ruin proved to be of exceptional interest and was very rich in textiles. A report will be published during the coming winter. The Wayside Museum, which Mrs. MacCurdy gave to the Park Service at the Grand Canyon, was opened last spring and has been functioning through the summer. The exhibits are composed and maintained by Gila Pueblo; while the Park Service keeps the building and appoints a Ranger to explain the exhibits.

Harold S. Gladwin,

Gila Pueblo, Globe, Arizona

Archaeological field work of the Museum of Northern Arizona for the past year was largely confined to the San Francisco mountains, where investigations of problems studied in 1931 were continued by means of the Archaeological Survey and excavation in the field. Briefly, these problems were as follows: (1) if possible, to secure more beam material from prehistoric pithouses covered by the ash fall from Sunset crater, a recent volcano, in an attempt to date the eruption which buried these dwellings, and also to assist in extending the Douglass tree-ring chronology further back; (2) to determine the cause of the apparent differences between pottery types of late Pueblo II and early Pueblo III in sites north and south of the San Francisco peaks; (3) to restore two cliff pueblo rooms in the Walnut Canyon National Monument; and, (4) to gather more evidence of Hohokam influence in the region.

In continuing the Archaeological Survey, Dr. Colton and Miss Bartlett added 242 new sites, 181 of which were from the general region of the San Francisco mountains, 39 from the Hopi country or east of the mountains, and 22 from the west. The survey is gradually working westward. A total of 19 new detailed maps were made in which the scale was enlarged from the original in order to locate properly the sites. Sherds were collected from all sites. On May 10th, Mr. Lyndon L. Hargrave, with three assistants, began the excavation and repair of two pueblo rooms in Walnut canyon. This work completed, a base camp was established about 17 miles north of Flagstaff. The personnel and equipment were both increased. Early in July the camp was moved to Turkey Tanks about 18 miles east of Flagstaff, where investigations were continued until September first.

Seventeen Pueblo I pithouses were located beneath the ash fall of Sunset crater,

13 of which were tested, and four completely excavated. Study was also made of 15 early Pueblo II pithouses, principally located beneath the cinder covering, all of which were tested and six completely excavated. Two vestibule houses were excavated in order to substantiate previous details of construction, and one Pueblo II masonry pithouse was excavated. A Hohokam site discovered early in the season was thoroughly studied. Little success was had in collecting charcoal, and only two pithouses have been dated as a result of the season's work. The recovery of several small pieces of wood from the two rooms in Walnut canyon has enabled Mr. John C. McGregor to add two dates to the group of cliff pueblos in that canyon, making a total of six. During the year, however, five sites previously excavated were dated, and the construction of one site was assigned to 784 A.D., the earliest construction date reported. The scarcity and poor condition of charcoal recovered from pithouses buried beneath the cinders make absolute dates on the dwellings and the subsequent volcanic eruption unlikely until more and better study material is collected. Probably the outstanding result of the season's work was the discovery and excavation of a Hohokam dwelling with typical features and associated pottery types and cremation burials. Bits of evidence indicating strong influence from the south had been gathered yearly by the Museum, but such strong evidence of contact was not expected during late Pueblo II, as all other evidence was found in late Pueblo I or early Pueblo II. In addition to the above, much cultural material was gathered, and contributions to our knowledge of ceramics and the general economic conditions of the region during Pueblo I and early Pueblo II were made.

Harold S. Colton,
Museum of Northern Arizona

Carnegie Institution's field work in the Southwest in 1932 continued from September 10th to November 5th, inclusive. Activities carried on during this interval were toward two major objectives.—(1) prevention of the collapse of the great Pueblo III tower in Mummy cave, Canyon del Muerto, Arizona; (2) securing of timber sections to further the chronological determinations of Dr. A. E. Douglass. Strengthening of Mummy cave tower was done in cooperation with the National Park Service, which provided funds for labor and materials used. This repair work continued from September 10th to October 10th, by which time this superlative example of Pueblo III architecture had been put in condition to withstand ordinary manifestations of the elements for centuries to come. In 1924 the writer began the strengthening of the tower with funds provided by the late Dr. J. Walter Fewkes. On the occasion a foundation of masonry was erected to fill the cavities beneath the forward wall. In 1926, in the interests of the American Museum of Natural History, draw bolts were set to bind the forward wall to the cliff. Replacement of the fallen southeast corner, constituting the final element of the repair, was completed this season.

Earl H. Morris,
Carnegie Institution of Washington

Through funds contributed for the purpose, surface sherd collections were made at 89 sites in the vicinity of both Begashebet and Blue Canyon Wash in Arizona, by Deric Nusbaum, representing the Laboratory of Anthropology at Santa Fé.

J. L. Nusbaum,
Laboratory of Anthropology

Arkansas—During the winter of 1930–31 the University of Arkansas Museum excavated two cemeteries in Mississippi and Crittenden counties. These sites yielded a great variety of pottery objects, chiefly in the form of effigy jars and vessels with engraved designs. Several unusually fine specimens representing the human head were obtained in Crittenden county. The cultures studied are distinctly pre-Columbian. In the area adjacent to these cemeteries we explored several house mounds, which yielded bundle burials and crude pottery of the purely utilitarian type. Several pottery vessels were found to contain human remains in a manner suggestive of the urn burials of Alabama. During the summer of 1932 we continued our work in the Ozark bluff shelters along the War Eagle river. The artifacts consisted very largely of agricultural products, basketry, bags and other perishable material. The results tend to supplement the work of Harrington in adjacent regions. We have recovered two cradle burials quite different from the one described by him. In each instance the bodies on the cradles were covered with cloaks of feather-down cloth.

S. C. Dellinger,
University of Arkansas

In 1932 the Alabama Museum of Natural History sent a field party to Mississippi county to determine the culture represented by deposits in the vicinity of the Nodena mound, on a ridge fronting an old slough near the levee of the Mississippi river. A particularly rich spot, approximately 75 feet square, was encountered, in which more than 300 burials were found. The collections of artifacts from this site were especially rich in effigies, many of which were unique.

W. B. Jones,
Alabama Museum of Natural History

California.—During 1932 the Los Angeles Museum carried out two minor operations with fairly satisfactory results. During January, February, March, and part of April, Richard Van Valkenburgh and photographer, Milton Snow, worked on the old Chumash village site of Muwu, near Pt. Magu, Ventura county, as members of the Van Bergen-Los Angeles Museum Expedition, in order to obtain additional data upon Chumash houses and to check the information obtained by the Museum upon the same site in 1929. Evidences of some 10 houses were found, but only three were completely worked. These showed the same general characteristics, poorly defined floors, circular in shape, from 17 to 21 feet in diameter, and partially subterranean. In one instance, interlocking house rings were discovered with the post holes on the peripheries plainly indicated. An infant burial was found in a pit in one of these houses. Judging from the artifacts, Muwu was occupied relatively recently, the last burials in the cemetery and in the house in question having been made ca. 1791–1810.

In April, through the courtesy of Mr. Thornhill Broome, a test excavation was made upon a much older Chumash site, situated upon the eastern margin of the old lagoon bed, a continuation of the same lagoon upon which Muwu was situated, but distant some two miles from the latter village. This site, (Simo mo), kept intact by Mr. Broome, should prove a rather important one, not having been disturbed by pot hunters. A trench, 60 feet long, 20 feet wide, and in some places 13 feet deep, was cut through a portion of the site. Burials were encountered at various levels, but there was no appreciable change in the artifacts nor any apparent stratification. No traces of contact with the Spanish appeared in this particular area. The artifacts included many fine specimens of bone tubes, inlaid with small olivella beads set in bitumen, large chert blades with traces of tar hafting, bone whistles, the carapaces of tortoises, some inlaid with beads and tar. Perhaps the most significant indication of cultural affiliations not yet worked out in this southern coastal area was the presence of the finely made sandstone mortars having tapering sides and flat bottoms. No other type was found on the site. The ornaments have their place in the material culture, but it will be through the worked chert, obsidian and burned shale artifacts, as well as the mortars, that we shall eventually be able to indicate tribal affiliations.

Arthur Woodward,
The Los Angeles Museum

In April the San Diego Museum sent M. J. Rogers and F. S. Rogers into the Sierra de las Tinajas in northeastern Lower California, primarily to investigate a series of boulder pile alignments that cover several square miles of broken mesa land. It was found that most of the piles were arranged without order and no purpose could be determined for these unique structures. They are undoubtedly allied, however, with similar but more orderly gravel figures of a ceremonial nature throughout the lower basin of the Colorado river. During this investigation several Cocopa sites were visited and collections made upon them.

In October and November a small field party from the Museum conducted a two weeks' reconnaissance in the Colorado desert, recording camp, village and petroglyph sites. Much of the time was devoted to tracing out an ancient trade-route that once connected southern Arizona with the Pacific coast. This old Indian trail is still discernible and plainly marked over miles of stony mesa land. About midway of its course 19 piles of boulders were encountered which seemed to be votive shrines. Offerings of whatever material the travelers had been carrying had been deposited in them. Shell work from the Pacific coast as well as artifacts from southern Arizona were identified in the assemblage. Everything had been smashed and in some instances burned previous to deposition in the shrines. Judging from the culture periods represented, the deposits were formed by a gradual accumulation over a long period of years.

Malcolm J. Rogers,
San Diego Museum

Mr. and Mrs. W. H. Campbell, of the Desert branch of the Southwest Museum at Twenty Nine Palms, California, have continued their reconnaissance in Riverside and San Bernardino counties and have succeeded in locating and mapping many new caves used as dwellings and storage places by the ancient inhabitants as well as various outdoor camp-sites. Especial attention has been paid to the camp-sites on the shores of dry lake beds and to the different forms of cremation practiced by the ancient peoples of that region. M. R. Harrington spent two days on a brief reconnaissance trip in San Luis Obispo and Santa Barbara counties, during which a number of caves were visited and pictographs observed.

M. R. Harrington,
The Southwest Museum

Colorado.—The work of the Archaeological Survey of Colorado was continued for the third season by the Department of Anthropology of the University of Denver under the direction of E. B. Renaud. By means of field trips in May, June, and early July, complementary survey work was done in the plains, in the South Platte basin, northeast and southeast of Denver, and in the Arkansas basin southwest, northeast and northwest of Pueblo. New territory was explored west of the Front range in the upper South Platte drainage and upper Arkansas valley. In July a reconnaissance trip was undertaken in the San Luis valley. The principal result of the work, besides adding nearly 100 new sites to the Archaeological Survey, was to extend the limit of distribution of the Basket Maker culture northward into the Arkansas basin. Coiled basketry, sandals, and other objects comparable to those found in the Cimmaron valley of New Mexico and Oklahoma, and in Arizona and Utah, were discovered in a cave southwest of Fowler, and in rock shelters near Beulah. Another significant result was the collection of many Folsom and Yuma points from new districts in eastern Colorado, demonstrating the extensive distribution of these fine and probably very ancient points over a vast territory in unexpectedly large numbers.

E. B. Renaud,
University of Denver

Connecticut.—The archaeological survey of Connecticut has been developing continuously since last year, but most of the work has been directed toward correlating data gained from local collectors and historical sources. Altogether, 188 sites, including shell heaps, cave shelters and camp sites, have been located, 54 of which have been excavated by private individuals. Of these only two are extensive and comparatively rich, the shell heaps at the mouth of the Connecticut and the Housatonic rivers. During the past summer four small sites were excavated by the Museum staff and students, but an extraordinary amount of perseverance will be necessary to reward their efforts. In each instance the stratum of occupation has been shallow and artifacts extremely few. Eventually, however, significant data should be accumulated. The Department recently excavated a cave shelter in Mid-

dlex county, but secured little material because of previous activities carried on by private individuals at the site.

Cornelius Osgood,
Peabody Museum, Yale University

Illinois.—During the fall of 1932, several reconnaissance trips to the valley of the Sangamon river, near Mahomet and within 15 to 20 miles of the University of Illinois, have indicated the existence of two important series of mounds on the terraces overlooking the river. Mr. W. H. Hunter, a graduate student in archaeology and a former research assistant, contemplates making an archaeological survey of that part of the Sangamon valley which lies in Champaign county, between Fisher and Monticello, Illinois.

Arthur R. Kelly,
University of Illinois

During 1932 the University of Chicago continued its field work in Illinois. The intensive archaeological survey of Fulton county was completed, and a preliminary survey was carried on in Whiteside, Carroll, Lee, Henry and Rock Island counties.

Excavations in the Lewistown district of central Illinois were centered on the village sites with very important results. Rectangular pit houses, arranged in groups, were discovered in six locations and seem to be identified directly with the Middle Mississippi Phase (related to the culture of F³⁴—the Dickson site). Two stratified sites were uncovered in this vicinity. In one the Middle Mississippi culture was found above a Woodlands horizon. The other yielded further data confirming the finding of a year ago, namely that the Hopewell culture phase antedated the Middle Mississippi in this region. A very interesting clay figurine similar to those found in the Ohio Hopewell sites was discovered in the Hopewell level of this site. In Mason county, just across the Illinois river from Fulton county, a large Hopewell type mound presented a floor of compacted sand surrounding a central pit in which seven extended burials were encountered. Platform pipes of typical Hopewell type accompanied the burials, while Hopewell potsherds were found in the mound itself. Adjacent to the mound is a village site covering approximately an acre. In places, the cultural deposits extend to a depth of six and one-half feet, making this in many respects the most important village site of this culture yet studied.

Village site excavation in Joe Davies county resulted in the discovery of at least two and probably three cultural aspects, related to the Wisconsin cultural phases on the one hand and to those of central Illinois on the other. A series of mound and village sites, including historic Sauk and Fox village sites, were secured by the preliminary survey party for future excavation.

Fay-Cooper Cole,
University of Chicago

Indiana.—The preliminary survey of Indiana being undertaken by the Indiana Historical Society and the Historical Bureau was continued in the valley of the

East Fork of White river, with Glenn A. Black as field director. Owen county was surveyed and over 30 camp and village sites, as well as isolated mounds and two rock shelters, were located and mapped. One large mound group with an associated village site was found and surveyed.

The major operations of the season were confined to Green county, surveyed last year, which also lies in the valley of the East fork of White river. This county had been heavily inhabited in prehistoric times by one ethnic group, judging from the uniformity of culture traits exhibited by the collections from this county, the pottery found on the sites, and the recurrent tendencies of the inhabitants in the selection of habitation sites. Over 100 mounds were located, often occurring in large groups with large and heavily occupied associated habitation areas. Excavations were made in two village sites, both having mound groups forming a part of the site. Twenty-eight hundred specimens were secured from the 35 refuse pits studied. Two mounds at each site were excavated, but with disappointing results because of previous pitting. One of the remaining burials had a concavo-convex copper ear disk near the left mandible. This disk—as well as its position—was identical with one found last year in the Osborn mound. Sufficient evidence was obtained from the four mounds to relate definitely the builders to the occupants of the village sites. It was also established that these two groups of mounds are true burial mounds, and not “sand dunes” as previously described. One mound in the Osborn group excavated during 1931 contained a sandstone slab vault constructed upon a white clay primary mound. A copper celt and a concavo-convex copper ear disk were found with the burial, of which little remained. Three more mounds of this group were excavated in 1932. The one adjoining the 1931 mound contained a sandstone slab paved area in the center six inches above the mound floor, laid upon a layer of white clay of that thickness. In the center of the pavement a rectangular, two-holed slate gorget and a small cube of galena were found. Nothing whatever remained of the interment. The other two mounds contained little of interest. One had a row of sandstone blocks laid upon the original surface around the northeast quarter of the mound, suggesting the gravel and boulder retaining walls occasionally found in mounds of the Ohio valley. The remains of the associated village site were located by extensive testing in uncultivated areas. The potsherds from the site and from the mounds are identical in every respect with the more than 2000 sherds collected from the two habitation sites excavated, as well as those from all other pottery sites in the county. The material removed from the village sites of the county is distinctly Algonquian in character. The culture traits exhibited by the artifacts from the mounds, the features found in the mounds excavated, and the type of material removed from a large mound in the county destroyed in 1870 (a perfect specimen of Hopewell pottery, clay figurines, a copper celt, mica and awls found within a large sandstone vault), all point toward a strong Hopewell influence, if indeed not to one phase of the Hopewell culture itself.

Glenn A. Black,
Indiana Historical Bureau

Iowa.—In addition to desk work and care of materials, four weeks were devoted to field exploration. Four more village sites discovered on the Little Sioux in Woodbury and O'Brien counties made possible closer definition of culture boundaries in this region, while various local collections were studied and put on record. Two entire collections and parts of several others were acquired. In east central Iowa, Jackson county, three village sites on the Mississippi were discovered and collections made, while in the northern part of the county, on Lytle's creek, a village site with nearby quarry was located and materials collected. Here also the work of a correspondent of the Survey, Mr. Paul Sagers of Iron Hills, was inspected. He has worked nearly a year on the local rock shelter and has uncovered much interesting skeletal material, as well as quantities of kitchen refuse and artifacts, especially potsherds of Woodland type. In southwestern Iowa, Mills and Pottawattamie counties, materials were collected from two new sites and a collection from a local earth-lodge bluff culture, to which the temporary name Glenwood has been given, was acquired. In southeastern Iowa two new Woodland sites came to light in Van Buren county, and a large site believed to be Siouan (to which in Iowa the temporary name Oneota has been applied) was found on the Mississippi river terrace some three miles north of Burlington in Des Moines county. Two Woodland sites were also identified on terraces of Flint creek just to the west of the great Oneota village. Village refuse was collected from all these sites, and donations of various artifacts were received from local collectors. The evidence was clear that both cultures made abundant use of the local flint, which occurs in fine quality and great abundance in strata in the nearby limestone ledges. Shorter trips in Linn, Benton, Iowa, Johnson, and Cedar counties secured information concerning two more Woodland village sites, gifts of three small collections of artifacts, and records of various collections.

Charles R. Keyes,
State Historical Society of Iowa

Kentucky.—The University of Kentucky investigated one small site in western Kentucky and procured information which will enable a larger problem to be undertaken in that vicinity during the next season. Two additional rock shelters were studied in Powell county, yielding a number of textiles and giving further evidence of Algonquian occupation in this region. A part of the summer was used in scouting and contact work which would lay bases for larger investigations next summer.

Wm. S. Webb,
University of Kentucky

Louisiana.—Winslow M. Walker, of the Bureau of American Ethnology, conducted archaeological investigations on the site of the great mound at Jonesville and along the bluffs fronting on Little river.

W. M. Stirling,
Bureau of American Ethnology

Minnesota.—The University of Minnesota spent the last six weeks of the summer in field work in Minnesota. With Mr. Lloyd A. Wilford and a class of five students for six weeks, and three others for part of the time, we did three pieces of work. First, we dug for the second time the site where the "Minnesota Man" skeleton had been obtained by an intelligent road crew in the varved silt of extinct Glacial Lake Pelican in Ottertail county. During the six days of August 2 to 7 inclusive, we obtained 355 additional small fragments of the skeleton. Three additional and much prized cranial fragments came to light later in small matrix blocks taken to the campus for silt study. The heads of several long bones were found which enabled a closer determination of the age of the young woman, now fixed at 17 years.

One month was next spent excavating a part of a habitation site on Blackduck lake in northern Minnesota east of Red lake. On the south shore of Blackduck lake is the north end of a portage on a famous fur-trading water route extending southward down the Mississippi waterway, northward to Hudson bay via the Red river, and eastward to the Great Lakes via the Rainy river waterway. Apparently that route was also used by prehistoric peoples. Much pottery was secured, including three jars on separate fire places. It is a distinct type of ware which we have named "Blackduck" pottery, the distribution of which has been traced over much of northern Minnesota and westward into North Dakota near the site of the Arvilla gravel pit culture. There were undisturbed burials and crude stone artifacts, including one tubular smoking pipe. Though a packed habitation level was found abundantly, definitive dwelling borders were not located.

Last, a week was spent on a mound near the confluence of the Big Pine river and the Mississippi about 20 miles northeast of Brainerd in central Minnesota. The mound was 50 feet in diameter and four feet, five inches high at its center. We dug an area 20 feet square in the central part of the mound down one and one-half feet below the base level. A few burials of dismembered and charred skeletons within one and one-half feet of the surface were found at its very center. The only artifact recovered was an unidentifiable smooth shard apparently carried to the mound during its construction. This mound is one of half a hundred of various sizes in the immediate vicinity.

Albert E. Jenks,
University of Minnesota

Mississippi.—From the first of August to the middle of October, Moreau B. Chambers, assisted by D. J. Ford, continued the archaeological survey of Mississippi, this season's work being sponsored jointly by the Mississippi Department of Archives and History and the Smithsonian Institution. The activities were concentrated in the lower Yazoo valley, locating and making potsherd collections from all sites within this area, the domain—in historic times, at least—of the Yazoo, Koroa, Ofo, Tunica, Ibitoupa, Taposa, and Chakchiuma tribes. One hundred forty-six mounds and 53 village sites were visited during the season, most of them in Yazoo and Holmes counties, with a lesser number in Hinds, Humphreys, and Warren

counties. The territory covered lay in the drainage of both the Big Black and the Yazoo-Big Sunflower systems. One site was undoubtedly occupied during the historic period, the remaining sites were apparently prehistoric. Ten days in August were devoted to the excavation of a representative small conical burial mound in the hill section of Yazoo county. During two weeks in October, excavations were in progress at a prehistoric village site on Chicopa creek, Holmes county, in the edge of the hills east of the Delta. Post molds were found outlining a square house, measuring 25 feet on a side, with the entrance facing the creek on the south. This site contains a group of mounds, of which four are yet standing. Random sherd collections from the surface showed by count 9.5% of the pottery to be decorated; nearly one-third of this percentage is painted red and white.

Dunbar Rowland,
Department of Archives and History

Montana.—Field parties from the University of Montana investigated the region of the rolling hills north and east of Dillon during our brief season this year, locating and mapping the so-called "tipi rings" and hitherto unreported lines known to the modern tribes as "wishing stones." The purpose of these rings and alignments of stone cannot be reported. One of our students was able recently to save a skeleton uncovered during the blasting for a house on the shores of Flathead lake. The skeleton was buried in the flexed position, uncommon in this area, and the skull which is still the object of our work, possesses some very unusual features.

Harry Turney-High,
University of Montana

Nebraska.—From June 15 to September 2, the field work of the Bureau under W. D. Strong, was carried on in Nebraska and South Dakota in cooperation with the Laboratory of Anthropology, Santa Fe, which assigned to the party the holders of four field fellowships in archaeology. Detailed excavations were made at Signal Butte in western Nebraska from June 15 to July 16. Here, on top of an isolated mesa, occur three levels of human occupation, separated in each case by some two feet of barren aeolian deposit. The uppermost occupation level below the grass line is prehistoric, and contains pottery and artifact types suggesting some definite connection with the Upper Republican culture of central Nebraska. The middle level is quite definite, but thin, and too few artifacts have been recovered to permit a definite cultural assignment at present. The lowest level is thick, consisting of a series of open hearths and cache pits dug down into the underlying sand and gravel. Bone and chipped stone artifacts are abundant, polished stone rare, and pottery totally absent. Pottery is likewise absent from the middle level. The most abundant type of stone projectile points in the lowest level, while smaller, are of the same general form as those found with extinct mammals in Nebraska. This level rests on water-borne material laid down during an early period of precipitation when the butte was still connected with the main escarpment to the south. Whether a time

break occurs between the water-borne materials and the earliest human occupation remains to be determined, but an early post-Pleistocene dating for this horizon seems probable.

M. W. Stirling,
Bureau of American Ethnology

Five trips were made by representatives of the Nebraska State Historical Society to various parts of the state for the purpose of recording historic Indian sites. Among others, Indian mission sites were identified on Council creek and Plum creek, and the exact spot of the Sioux-Pawnee battle of 1843 was located.

E. E. Blackman,
Nebraska State Historical Society

The University of Nebraska Archaeological Survey divided its 1932 season between the western panhandle and the central section of the state. The first month was devoted to Morrill county. Five rock shelters revealed long periods of occupancy, some having strata from eight to ten inches thick, rich in bone and flint implements and pottery. The stone work, especially the small notched points and four bladed knives, as well as the pottery, indicated close relationship with the prehistoric Pawnee farther to the east. Relationship with the upper strata of Signal Butte, worked by Dr. W. D. Strong of the Bureau of American Ethnology, was also evident. Most of the material was buried under great blocks of fallen ceiling in front of the present shelter. Evidence that the existing shelters have been formed since the collapse of the older ones suggests considerable antiquity. Excavations in the sand blow-outs of the Platte valley proper disclosed a second and distinctive type of pottery and flint work which as yet cannot be associated with other cultures of the area.

The second part of the season was devoted to work in a village site near Cotesfield, Nebraska, on Munson creek. Three house sites were excavated, two of which were rectangular and contained artifacts of the prehistoric Pawnee type. The third house had pottery of the same type but an important variation in structure. It appeared to be entirely subterranean. The floor, although indistinct, was seven feet below the present surface, with a very distinct sloping entrance. No post holes were present in the center, at the margins, or in the entrance.

In both regions many trips were made to other sites and local collections examined and photographed for the University files. Dr. G. H. Gilmore, cooperating with the University, continued his archaeological research in Cass county along the Missouri river. Further evidence of the Nebraska culture was unearthed and more work was done on the Walker-Gilmore site, the only known Woodland culture site in Nebraska. Nine small conical mounds were discovered on the bluffs of the Missouri. Two were excavated.

Earl H. Bell,
University of Nebraska

The Cook Museum of Natural History did only desultory local field work during the past year, including some reconnaissance during which sites were located that may prove of considerable importance when field work can be actively resumed. At the request of Dr. W. D. Strong, we examined the splendid discoveries made at Signal Butte by the Bureau of American Ethnology party. We studied the discovery made by the University of Nebraska party under Mr. C. B. Schultz, of fossil bison skeletons and associated artifacts, some of which are of the Yuma type. This discovery is of particular importance and adds materially to the evidence of these early people. We also visited Mr. Homer Anderson, of Yuma, Colorado, who first discovered the Yuma type of artifact in association with fossil bones, and investigated his recent and unpublished discoveries of more remarkable evidence of these little-known people.

Harold J. Cook,
Cook Museum of Natural History

Dr. E. B. Renaud, of the University of Denver, spent the first week in June on a reconnaissance trip for the Colorado Museum of Natural History in the North Platte valley, western Nebraska. Many camp sites, blow-outs and mesa top sites were visited. Several important collections were inspected, and Folsom and Yuma points brought to Denver for study and exhibition.

E. B. Renaud,
University of Denver
Colorado Museum of Natural History

Nevada.—M. R. Harrington, of the Southwest Museum, undertook a brief reconnaissance trip during July and August in White Pine county, examining a number of caves showing traces of occupation. In this district we found traces of a pre-Basket Maker people, very poor in artifacts, who left deep deposits in certain caves containing little but split animal bones, ashes and charcoal. These were followed by Basket Makers, who left a few traces in some of the caves, and these, in turn, were followed by Early Pueblo people, a culture similar to that of the Moapa valley, Nevada. Superimposed upon all these others are occasional objects left, apparently, by the ancestors of the Shoshone now residing in the region.

M. R. Harrington,
The Southwest Museum

New Jersey.—The New Jersey State Museum has just finished the installation of an unusual Indian burial found on the New Jersey bank of the Delaware river in Warren county, above the Water Gap by Richard Wakefield and Albert R. Sampson of Westfield, New Jersey, members of the Archaeological Society of New Jersey. Dr. Frank G. Speck, authority on the Delaware Indians, states that judging by the importance of the articles found with the burial, the skeleton was that of a person of superior rank. It was flexed with the hands over the face, one hand holding a copper box probably used as a paint mixer. The head rested on a deposit of red powder,

around which was a copper spiral, enclosing sinews, possibly the tie string of a bag. Nearby was also a deposit of black powder. Beside the powder lay a small paint pestle, and an abraded sinew stone. Between the copper box and the skull was a two-sided bone comb. In the region of the neck were found six beautifully carved bird amulets made of conch shell, a long tubular shell bead and about 50 wampum beads. The right hand, which held the box, is partly preserved by the copper and there is also a piece of preserved leather on the back of the hand.

Mrs. Kathryn B. Greywack,
New Jersey State Museum

New Mexico.—As usual, the University of New Mexico, the Museum of New Mexico, and the School of American Research carried on two excavations, one at Jemez and one in the Chaco. The Jemez Field School was again conducted, showing almost a 100% increase over the 1931 session in number of students. The Upper Division Field School was held as usual in the Chaco, with the class filled to capacity. In the Jemez, the fifth year's excavation was rounded out. The material and data are being prepared for publication.

Great progress was made in the excavations at Chetro Ketl. The work was conducted in the great Sanctuary, where some of the most important finds of the Chaco canyon excavation came to light. The work went steadily forward in the house rooms, progressing toward the West Tower. Under the East Tower beams and piers were built to support upper walls so that the excavation of the lower levels could be carried on. At Casa Rinconada across the canyon, steps were taken toward the final clean-up. A new and important series of studies were inaugurated in the Chaco canyon in connection with the Archaeological Survey, dealing with the ethnogeography, physiography, water resources and climatology of the canyon. This has been undertaken to throw new light upon the migrations and abandonment of the Chaco. The Survey also inaugurated a new branch dealing with the ethnology of the surviving peoples of the Pueblo plateau.

Reginald G. Fisher, Assistant Director
University of New Mexico
Museum of New Mexico
School of American Research

Economic factors have somewhat restricted various field projects of the Laboratory of Anthropology during the current year. Two projects of the Archaeological Survey, under the immediate supervision of H. P. Mera, were carried to completion: first, a survey of all sites in the Tesuque valley, New Mexico, by Stanley Stubbs, the results of which are now in manuscript form; and second, a study of the surface aspects of all Biscuit ware sites in the upper Rio Grande drainage, by H. P. Mera. The analytical study of this area is nearing completion. Considerable progress was also made during the spring in a field survey of the distribution and variations of the Rio Grande painted wares, a project under way for a period of years, which may be completed within the next two years. A number of short trips were taken to minor

sites as occasion demanded. The Laboratory sherd collections were increased during the course of the year from 680 to 1063 lots, obtained primarily from sites in New Mexico.

The work of the Dendro-Archaeological Project inaugurated by the Laboratory in June, 1931, under the direction of W. S. Stallings, for the primary purpose of dating sites in the Rio Grande area was confined mainly to laboratory study of the collections obtained last year. During the summer of 1932 occasional short trips into the field were made to collect necessary supplementary material. A tree-ring chronology for the Rio Grande drainage in northern New Mexico has been carried back to 1200 A.D. The first report on the work of the Project is in preparation for publication.

Under the direction of Anna Shepard, the Laboratory has initiated a technological study of ceramics employing primarily the methods of optical petrology in the analysis and identification of pottery materials. The purpose is to gain an understanding of the technical changes and developments which have taken place in this primitive industry through accurate identification of materials, and an empirical as well as theoretical knowledge of their properties and uses. The location of sources of clays and natural tempering materials, sand and rock, is an essential part of the study, and frequently gives insight into trade relationships as well as the limitations imposed by materials and the relative care exercised in their selection. To date, work has been concentrated on the analysis of the wares of Pecos and has led to field trips for geological observations and collecting in the vicinity of Pecos, in the Galisteo basin, the Tesuque valley, and the Pajarito plateau. On these trips the tuff deposits of the Tesuque valley and the Pajarito plateau have been studied and compared, igneous rock on the west side of the Galisteo basin has been collected and sectioned and the Laboratory file of clay samples, recently started for the purpose of testing and comparing clays, has been brought to over 100 samples. Questions of origin and relationships arising from the Pecos study have also prompted field trips for the collection of sherds from the same general area for comparative studies of the glazes and black-on-white wares. The Laboratory collection of thin sections of pottery of this area, now numbering above 500, has given insight into ceramic relationships and definitely defined problems for future investigation.

Jesse L. Nusbaum,
Laboratory of Anthropology

The Carnegie Institution conducted a search for timber sections in the Tohachi flats north of Gallup, New Mexico, and among several groups of ruins in the plain between Bennett's peak and the Chuska range, Navajo Reservation. In all, approximately 400 wood samples were secured, representative of the periods Basket Maker III, Pueblo I, and Pueblo III. It is hoped that these will be of help in extending Dr. Douglass' chronology toward the earlier Southwestern culture phases which as yet have not been positively fixed in time.

Earl H. Morris,
Carnegie Institution of Washington

The Director of Gila Pueblo has continued the survey of the area between Zuñi, Chaco, and Acoma, the work being based chiefly on surface collections of sherds. The excavation of a few small sites in the Wingate valley gave encouraging results, and it is hoped that systematic excavations will be begun next year in the vicinity of the Wayside Museum at Coolidge, New Mexico.

Harold S. Gladwin,
Gila Pueblo

Continuing the work of the two previous summers, Mr. Edgar B. Howard working jointly for the University Museum of the University of Pennsylvania and the Academy of Natural Sciences of Philadelphia, completed the excavation of the cave in the Guadalupe mountains, New Mexico, from which so much interesting material had been recovered. Two more Basket Maker cremated burials were found in the back of the cave at about the same depth below the surface as the other burials, namely, two to three feet. In one of them, broken parts of an atlatl were found in a basket with the burned bones. There was a covering of rushes and sticks, loosely woven together, on one burial. Additional bones of musk-ox, horse, bison, California condor, and of smaller mammals and birds, were recovered, extending to depths of approximately nine feet from the original surface. Several deep hearths, some containing charred animal bones, were also encountered. No more Folsom points were found in the cave. However, in an open site, some distance from the cave, Folsom points were found in what appears to be an old lake bed, from which the sand has been blown into high dunes surrounding it. A mammoth tooth and horse and bison bones were found at the same site. A subsequent visit to this site late in the year, during the course of commercial excavations, made possible the finding of additional mammoth, horse and bison remains *in situ*.

J. Alden Mason,
University Museum, Philadelphia

New York.—The Rochester Museum of Arts and Sciences sent out no archaeological expedition this year. However, its Director made some study of the early migration routes of the Iroquois into the state and determined that the region west of the Finger lakes between Canandaigua lake and the Genesee was occupied by an early Iroquoian people whose pottery had the characteristic collar, sometimes greatly exaggerated, but lacking the overhang and constricted neck of the Onondaga-Mohawk province. Mr. Ritchie, the Assistant Archaeologist, made some examinations of Algonquian sites along the western end of Lake Ontario, opening up a possible clue to the relation of the polished slate, semi-lunar knife people to the Algonquian culture.

Arthur C. Parker,
Rochester Museum of Arts and Sciences

Although vocational demands somewhat curtailed the activities during the past season of the field group of Long Island Chapter, N. Y. State Archaeological Associa-

tion, fruitful excavation was done at Montauk; a beginning was made by Messrs. Latham, Booth, Young, Gildersleeve and Goddard on a camp site with burial plot on Peconic bay, Southampton; and Mr. Goddard devoted much of the season to productive trench work in continuance of previous excavation at a site in Riverhead. At Southampton, distinct from but closely adjacent to graves, pits of unusual depth were encountered, at the bottoms of which were crushed (but restorable) pots of well-made Algonquian ware unaccompanied by fireplace refuse.

Charles F. Goddard,
Long Island Chapter,
New York State Archaeological Association

North Dakota.—The State Historical Society of North Dakota has continued its survey of Indian village sites and other archaeological features in the state. In this work we have had the active cooperation of several private collectors, some of whom have done considerable field work in the state recently. Representative collections of practically all of the known Indian village sites have been secured. Large maps showing the locations of village sites and other archaeological features are now being prepared.

In September of the past year, Mr. George F. Will and the writer made a short survey of the Missouri valley by airplane. Air photographs, with good results, were taken of each site passed over. It is to be hoped that a complete survey of the Missouri valley village sites in North Dakota may be made from an airplane in the near future.

Russell Reid,
State Historical Society of North Dakota

Ohio.—During intermittent periods from March to August, three mounds were excavated and a number of sites visited for the Ohio State Archaeological and Historical Society. Director Shetrone, Dr. Greenman and Mr. Robert Goslin spent three days in May examining and photographing mounds and earthworks in Marietta and the immediate vicinity. Mr. Goslin left shortly afterward for Indiana, where he spent the entire field season assisting Mr. Glenn Black. In April a small mound 30 miles south of Columbus was excavated. Enough was found to enable its inclusion among mounds of the Adena group. A week in July was given to excavation of a mound of the Hopewell type near Kent in Portage county. In June a number of new sites were located and private collections examined in and near Sandusky. The site of a previously leveled mound near Port Clinton was excavated, with rather uncertain results. One fragment of pottery was found two inches beneath the complete skeleton of an animal which had been buried upside down. Mr. Gerrit S. Miller, Jr., of the U. S. National Museum, identified the skeleton as that of a dog similar to the Great Dane, as well as two skeletons of large Indian dogs from Fort Union in northeastern Montana. The site of this mound adjoined that of a prehistoric village, potsherds from the surface of which indicate an Algonquian occupation.

E. F. Greenman,
Ohio State Archaeological and Historical Society

Oklahoma.—The Anthropology Department of the University of Oklahoma conducted a three weeks' archaeological survey of the eastern part of the state, mapping sites for future work. In the latter part of the year, a number of sites were located in extreme western Oklahoma, one of which appears to be the remains of a stone slab-house village. Nine house sites were identified and mapped, but the onset of winter prevented intensive examination, which has been deferred until the summer of 1933. Artifacts unearthed during the preliminary investigation of the site include arrow points, a variety of bone implements, four bladed stone knives, stone and shell beads, scrapers, and potsherds bearing the imprint of basket weaves on the outer surface. There are apparently three distinct strata present, the bottom stratum being covered by a layer of clay 18 inches thick. The site is located on a lower terrace of the North Canadian river in Texas county, Oklahoma. A number of cave shelters containing artifact-bearing deposits from two to five feet in depth have been located in Cimmaron county, and held for intensive work in the summer of 1933.

Forrest Clements,

University of Oklahoma

South Dakota.—From July 16 to September 2 the Bureau of American Ethnology field party under W. D. Strong, assisted by four fellowship holders from the Laboratory of Anthropology, Santa Fé, worked on the Missouri near the mouth of the Grand river in northern South Dakota. Extensive excavations were made in an historic Arikara village visited by Lewis and Clark in 1804 and bombarded by General Leavenworth in 1823. Beside much native material illustrating practically all phases of Arikara life at the close of the 18th century, much evidence of early fur trade contacts was obtained. Of historic interest was the finding of two of Leavenworth's howitzer shells in the torn-up floor of one of the four earth lodges completely uncovered. Besides this village, a large protohistoric site across the river was investigated. This appeared to be of Mandan origin and yielded much information. Some ten other large prehistoric and protohistoric sites were sampled and surveyed. Four villages of the protohistoric Mandan type were particularly interesting since their culture complex seems to suggest a possible relationship with the Mill creek culture in Iowa and the Fort Ancient culture of Ohio.

M. W. Stirling,

Bureau of American Ethnology

In cooperation with interested parties at Faulkton, South Dakota, the Curator of the University of South Dakota Museum spent a week at a village site near Lebeau, in Walworth county. The single lodge site excavated proved to be square instead of circular, as expected. One grave was opened in which were three skeletons about six and one-half feet below the surface, a male, female, and infant. The skeletal material and a good assortment of bone tools from nearby refuse heaps have been deposited in the Museum.

W. H. Oser,

University of South Dakota Museum

Southern States.—Between the end of December and the first of April, 1932 the Director of the Department of Archaeology, Phillips Academy, traveled through seven southern states, visiting scenes of exploration and ancient sites. He gave suggestions or advice in more than 20 localities as to field and museum methods. Particular attention was given to excavations conducted by Mr. Burnham Colburn in North Carolina, by Dr. W. B. Jones at the Moundville site in Alabama, and at several points in Florida.

Warren K. Moorehead,
Phillips Academy, Andover

Tennessee.—During 1932 the East Tennessee Archaeological Society has continued exploration in the mound on the Evans' farm in Sequatchie county. One interesting burial of an adult male was removed from the center on the base line. Another burial included a cache of conch columellae. This village site extends to the adjoining farm, where there is a mound similar to the one now being studied. The Society has secured permission to investigate it and thereby make a complete study of the entire site. Rock shelters in Pickett and Van Buren counties have been investigated this year.

Charles K. Peacock,
East Tennessee Archaeological Society

Texas.—Frank M. Setzler, of the U. S. National Museum, carried on archaeological work in the caves of the Big Bend in Texas, near Alpine, procuring principally baskets, sandals, and fiber work. This material has been classified as approximately Basket Maker. No pottery was found in the caves explored.

Walter Hough,
U. S. National Museum

During the year 1932 the University of Texas has supplemented work done in preceding years in East Texas and in the coastal area and has given considerable attention to the Trans-Pecos area. During the summer Mr. A. T. Jackson, permanent field foreman, and his crew were sent again into the extreme northeastern part of the state. He completely explored three important cemeteries and several small mounds and middens, finding evidences of European contacts, as well as Caddo and Assanai material.

Mr. A. M. Woolsey, a graduate student, was sent to the coast with a small crew of advanced students. He began a survey at the mouth of the Guadalupe and worked north to the Trinity. A large mound, 18 feet high and 160 by 500 feet in area, was trenched across the narrow diameter, down to native hard pan. This is one of the largest mounds in the state and seems completely isolated, being the only known earthen mound on the coast, 300 miles from the nearest mounds to the north and 400 from the nearest to the south. We encountered ten burials and numerous crude flint artifacts. Nine of the graves contained bundle burials and all bones, human or

animal, were highly mineralized. We found only two tiny sherds of pottery, although pottery was abundant in nearby sites. The most interesting place worked by the coast crew was a combined midden and burial mound on Bolivar peninsula across the bay from Galveston. Here we found 65 burials, with many shell beads and ornaments, indicating a possible cultural contact with the artistic shell workers farther north in east Texas.

Late in the year Jackson worked an extensive rock shelter four miles above the mouth of the Pecos and found the typical sandals, rugs, baskets and nets of that region.

J. E. Pearce,
University of Texas

Members of the Texas Archaeological and Paleontological Society excavated 25 burials in the Abilene region during 1932. One, found in a stone slab-lined grave near Colorado, Texas, had an exceedingly long, narrow skull and extra molar-premolar teeth. During September and October, 22 stone slab cist burials were excavated from six mounds. These were of a type not previously found in this region—buried rock slab mounds containing multiple burials in separate cists. One of them, a cremated burial under a rock cist, was found about a year ago. Nearly all of these flexed burials were sufficiently well-preserved to determine the type, which was predominantly long-headed. Two burials, one round-headed and the other too fragile and decayed for type determination, were found in the top layer of one mound. A long, slender, sharp, unpatinated blue flint arrowhead was found among the ribs of the round-headed skeleton. The entire rock masses of the mounds were buried beneath the present soil surface so deeply that one could only occasionally find a portion of the vertical edge of a stone showing on the surface. A crude patinated scraper and flint drill point, three deer-horn flakers, four animal bone joints, an abrading stone, and a bone awl were found in one of the mounds. Under the lower jaw of an adult skull in another mound were three long, incised tubes made from the bones of a large bird. A white polished stone ornament was found on the right forearm of a single burial. This artifact had a hole drilled in the center, and drilled dot decorations on one margin. In a mound containing ten burials, the only artifact discovered was a bone awl. The lower jaws of five of the skulls were missing, although the upper jaws and skulls were usually intact, with nearly all the teeth well-preserved. On a ledge within five miles of the principal site, there is a group of eight rock paintings in red. About 70 miles to the southwest, Basket Maker paintings have recently been found.

Cyrus N. Ray,
Texas Archaeological and Paleontological Society

An archaeological class of 15 students from Texas Technological College spent four weeks during June and July, 1932, completely excavating the B. T. K. Ruin a mile and a half south of Tascosa on the Canadian river in the Panhandle. It was

found to contain 33 rooms, varying in size from four or five feet square, to 12 by 18 feet. The walls were of slab-stone construction, and varied in thickness from one to four feet. Approximately 5000 potsherds and several thousand artifacts of flint and bone were found. At the close of the season, all the materials were taken to the Laboratory of Anthropology at Santa Fe, where they were studied in consultation with Director Jesse Nusbaum and Dr. H. P. Mera. Perhaps the most important result of studying the material in connection with the Laboratory staff was the dating of the ruin. Two dozen potsherds of intrusive ware indicated that the ruin was contemporary with the Glaze I period of the Pueblo IV culture of the Rio Grande area, which Dr. Mera indicated could not have been earlier than 1350 A.D. Mr. E. J. Lowrey, who has been excavating a ruin on Antelope creek northeast of Amarillo, under the supervision of Texas Technological College, continued his work during the summer. Although the excavation is still incomplete, he made an extensive report of all the work he has done to date on this ruin. This report is now filed in the library of the college.

W. C. Holden,
Texas Technological College

Continuing the survey of the Big Bend, the West Texas Historical and Scientific Society has located 12 additional sites, making a total of 190 mapped locations. Three rock shelter or cave sites were excavated, the first being Bat cave, near Van Horn. The evidence secured indicates a culture similar to that reported by Roberts from the El Paso area. Cultural similarities were observed between Bat cave and other sites occurring as far east as the Pecos. Two fragments of throwing-clubs were found here. Two dry rock shelters investigated in cooperation with the Gila Pueblo, of Globe, Arizona, revealed no trace of pottery, use of tobacco, or European influence. The first site, Muller rock shelter, was so named because some 30 mullers were found distributed in all levels to rock bottom. Scrapers were numerous, and a few painted pebbles were found. A fair variety of cordage, sandals of several types of weaves, and a number of wooden implements, including a fragment of a club, were secured. This shelter contained no burials. The second site, Carved rock shelter, was characterized by additional sandal weaves, cordage, bifurcated basket fragments, matting, fire-making apparatus, and the usual mullers, metates, and hammerstones. Five cists of the basin type were found. The lining of these small storage pits included grasses, prickly-pear leaves, sticks, branches, sandals, and twilled matting. A large stone axe of the *coup de poing* type and three other axes, two of which were wedged into handles formed of tree limbs, were found. This shelter contained evidences of agriculture.

Victor J. Smith,
West Texas Historical and Scientific Society

Since January 1, 1932, Gila Pueblo has maintained an expedition in Texas under the direction of E. B. Sayles. This expedition has covered practically all of Texas west of the 98th meridian, and has resulted in the examination of more than 800

sites, and the making of surface collections of flints and sherds. These surface collections have been supported by excavations in eight rock shelters or caves by Mr. Sayles, and in two caves in the Big Bend section, by Victor J. Smith, of Alpine. Stratigraphic tests were also made in ten mounds where the conditions were sufficiently favorable. A report on this work is now in preparation.

Harold S. Gladwin,
Gila Pueblo

Utah.—During the summer of 1932, Albert B. Reagan, of the U. S. Indian Field Service, continued his archaeological studies in the Uintah Basin. He made a special examination of the caves of the Ashley-Dry fork region about Vernal and the pictographs, caves and other remains left by the ancients in Nine Mile canyon, east of Price. One of the house types is similar to, but not as well made as the jacal houses of the Piedra district in southwestern Colorado. The pottery associated with these structures was scanty and crude, plain, undecorated gray ware. A people whose culture resembled Pueblo II live in cliff dwellings consisting of squarish to rectangular rooms, with or without associated towers, and in forts and towers in the open, many of which were of the boulder-type construction. The masonry is, however, much inferior to that of the Yellow Jacket-McElmo ruins. The pottery is both scanty and crude, and is usually a plain gray to dark ware without decoration. Besides establishing that the lower caves in Nine Mile Canyon contain Basket Maker material over which are probably superimposed artifacts of the ancient Fremont culture, it was also found that about three-fourths of the numerous pictographs of that canyon depict snakes, even horned (plumed or feathered) serpents.

Albert B. Reagan,
U. S. Indian Field Service

The Department of Anthropology, University of Utah, made two field trips for archaeological reconnaissance under the direction of Julian H. Steward. The first trip was during July, and required the greater part of three weeks. A small party traveled down the Colorado river by boat from the mouth of the Fremont river to Lee's Ferry, recording the scant Basket Maker and Pueblo sites and collecting sherds. The second trip, made during three weeks in August, covered the canyons and mesas between the Paria and Kanab rivers in southern Utah. Nearly 150 sites were plotted, diagrammed and photographed, and thousands of sherds collected. Pictographs and petroglyphs of both common and new types were recorded on both trips.

Julian H. Steward,
University of Utah

The field work of the Peabody Museum, Harvard, was limited to the northern drainage of the San Juan river in Utah, where Mr. J. O. Brew returned in May to to continue operations on Alkali mesa, west of Montezuma creek, begun during

the latter part of November 1931. Excavation was continued from the point where it was abandoned in December, and 13 sites on the mesa were wholly or partially excavated. In addition, sherd collections were obtained at numerous sites, and a rapid archaeological survey of the entire region was made. The primary purpose of the expedition was to gain more information regarding the little known Pueblo II period, and it is believed that a definite contribution to our knowledge of this period has been made. Post and brush houses, stone slab houses, houses built of coursed masonry above a slab foundation, and of coursed stone were found within a comparatively small area. The kivas disclosed a variation from typical pilastered type with banquette, to the proto-kiva of Basket Maker III. The pottery ranged in type from the extremely friable, coarse, undecorated ware of the closing period of Basket Maker supremacy to the highly developed, decorated, black-on-white ware of the Mesa Verde division of Pueblo III. In the sites excavated the development of corrugated ware can also be traced from early plain coiling, through a most interesting experimental period during which odd combinations of various corrugated and incised techniques occurred, to the standardized regular corrugated ware of the classic Pueblo III.

Donald Scott,
Peabody Museum, Harvard

Wisconsin.—The Wisconsin Historical Museum, in cooperation with members of the Wisconsin Archaeological Society, has excavated a small number of Indian mounds, thus enabling a number of University of Wisconsin students to get their first experience in field work. Some of the workings and workshop sites of one of the most extensive quartzite quarries in the state have been investigated and a collection of material made for museum use. A rock shelter has been examined and photographs taken of a rock surface bearing interesting petroglyphs. An aboriginal source of steatite and a considerable number of village and camp sites have been visited and collections made from these. Excursions of University students to aboriginal sites and mound groups were conducted during the summer session.

Mr. Theodore T. Brown, of the Neville Public Museum, Green Bay, has excavated a number of mounds in northeastern Wisconsin. Under his direction, progress is being made in a local archaeological survey. Important collections and specimens have been acquired. Several other Wisconsin museums have assisted in the archaeological investigations and surveys of the past year.

C. E. Brown,
Wisconsin Historical Museum
Wisconsin Archaeological Society

Academy of Natural Sciences of Philadelphia
Alabama Anthropological Society
Alabama Museum of Natural History
Alaska College of Mines

New Mexico
Alabama
Alabama, Arkansas
Alaska

Archaeological Society of New Jersey	New Jersey
Arizona State Museum	Arizona
Bureau of American Ethnology	Arizona, Louisiana, Nebraska, Mississippi, South Dakota
Carnegie Institution of Washington	Arizona, New Mexico
Colorado Museum of Natural History	Nebraska
Cook Museum of Natural History	Nebraska
East Tennessee Archaeological Society	Tennessee
Gila Pueblo, Globe, Arizona	Arizona, New Mexico, Texas
Indiana Historical Bureau	Indiana
Indiana Historical Society	Indiana
Laboratory of Anthropology	Arizona, Nebraska, New Mexico, South Dakota
Los Angeles Museum	California
Mississippi Department of Archives and History	Mississippi
Museum of New Mexico	New Mexico
Museum of Northern Arizona	Arizona
National Park Service	Arizona
Nebraska State Historical Society	Nebraska
Neville Public Museum	Wisconsin
New York State Archaeological Association	New York
Ohio State Archaeological and Historical Society	Ohio
Peabody Museum, Harvard	Utah
Peabody Museum, Yale	Connecticut
Phillips Academy, Andover	Southern States
Phoenix Archaeological Commission	Arizona
Rochester Museum of Arts and Sciences	New York
San Diego Museum	California
School of American Research	New Mexico
Southwest Museum	California, Nevada
State Historical Museum of Wisconsin	Wisconsin
State Historical Society of Iowa	Iowa
State Historical Society of North Dakota	North Dakota
Texas Archaeological and Paleontological Society	Texas
Texas Technological College	Texas
U. S. Indian Field Service	Utah
U. S. National Museum	Alaska, Texas
University Museum, Philadelphia	Alaska, New Mexico
University of Arizona	Arizona
University of Arkansas	Arkansas
University of Chicago	Illinois
University of Denver	Colorado
University of Illinois	Illinois
University of Kentucky	Kentucky
University of Minnesota	Minnesota
University of Montana	Montana
University of Nebraska	Nebraska
University of New Mexico	New Mexico

University of Oklahoma	Oklahoma
University of South Dakota Museum	South Dakota
University of Texas	Texas
University of Utah	Utah
West Texas Historical and Scientific Society	Texas
Wisconsin Archaeological Society	Wisconsin

CARL E. GUTH, *Chairman*

AMERICAN ETHNOLOGICAL SOCIETY

REPORT OF THE SECRETARY-TREASURER, 1932

The annual meeting of the American Ethnological Society was held on Monday, January 23, 1933, at 8:15 at the American Museum of Natural History.

The Secretary reported on the present membership of the Society which includes a total of 152. There are 16 life members, 37 annual members, and 99 fellows. During the past year 9 new fellows have been voted into the Society and 8 have resigned, leaving the total membership practically unchanged.

Meetings have been held as usual in conjunction with the Section of Anthropology of the New York Academy of Sciences at the American Museum of Natural History on the fourth Monday evening of each month, and the program of speakers has been as follows:

February 23 Meeting omitted because of holiday.

March 28. Personality and Primitive People, by Prof. A. L. Kroeber

April 25 Problems of Acculturation in Africa, with lantern slides, by Prof. Richard Thurnwald.

October 24 The Navajo Teach Me to Weave, by Prof. Gladys A. Reichard.

November 28. The Concepts of Pattern and Function in Cultural Anthropology, by Prof. Edward Sapir.

January 23 Music and Primitive Music, by Prof. George Herzog.

During 1932 Dr. Gunter Wagner's Yuchi Texts, the Memoir of the Society for the preceding year, was distributed; its publication was financed by funds of the preceding year and the mailing expenses were met by the current funds. The publication of the Society for 1932 was Miss Ella Deloria's Dakota Texts which are now in preparation and will be ready for distribution shortly. The present balance of \$1525.41, of which \$500 was received as a gift for publication purposes from the funds of the National Academy of Sciences, and \$868 as income from membership dues will be used to finance the printing and distribution of this Memoir. It was decided that the next publication—to be distributed in 1934—will be Dr. Ruth Bunzel's Zuñi Texts to be paid for by the Committee on Research in Native American Languages of the Council of Learned Societies.

The following ticket for 1933 was then elected:

President—Dr. Gladys A. Reichard, Columbia University.

First Vice-President—Dr. Elsie Clews Parsons, Harrison, New York.

Second Vice-President—Dr. Bruno Oettinger, Columbia University.

Secretary-Treasurer—Carolyn Adler, Department of Anthropology, Columbia University.

Editor—Prof. Franz Boas, Columbia University.

Directors—Dr. Clark Wissler, Dr. Ruth F. Benedict, Mr. Clarence Hay.

Respectfully submitted,

CAROLYN ADLER
Secretary

TREASURER'S REPORT

February 1, 1932 to February 1, 1933

CURRENT FUND

Receipts

Balance in Current Fund, February 1, 1932		\$ 586.93
Sales through Stechert	\$ 72.80	
Interest on Bonds	340.63	
Grant from National Academy of Sciences	500.00	
Savings Account withdrawn	493.53	
Dues, Members, 1932	370.00	
Dues, Members, 1933	10.00	
Dues, Fellows, 1930	1.00	
Dues, Fellows, 1931	34.00	
Dues, Fellows, 1932	441.00	
Dues, Fellows, 1933	12.00	
	<u>2,274.96</u>	
		<u>2,861.89</u>

Expenditures

Dues to American Anthropological Association.	\$708.00	
Stationery	25.83	
Clerical Assistance	4.50	
Mailing Memoir XIII	50.93	
Stamps, Safe Deposit Vault	13.61	
Travelling Expenses, Lecturers	14.52	
Foreign Exchange20	
Government Bond	518.73	
Check Tax16	
	<u>\$1,336.48</u>	
Balance in Corn Exchange Bank	<u>1,525.41</u>	
		\$2,861.89

PERMANENT FUND

Statement of Assets and Liabilities

<i>Assets</i>		<i>Liabilities</i>
3 N. Y. Mtg. Bond Co. Bonds (par value)	\$3,000.00	
1 U. S. Govt. Bond	<u>500.00</u>	\$0,000.00
	3,500.00	
NET ASSETS PERMANENT FUND		\$3,500.00

AUDITED AND APPROVED by GLADYS A. REICHARD
H. L. SHAPIRO

BOOK REVIEWS

METHODS AND PRINCIPLES

Anthropology and Modern Life FRANZ BOAS. (Second Edition, \$3 New York: W. W. Norton and Co., 1932)

Wells has suggested that existing socio-economic conditions require the constructive attention not merely of professors but of whole Faculties of Social Foresight. That looks like the impatient gesture of a faltering faith but it serves as a very modern illustration of the human tendency to develop a theory of corrective action from a partial appreciation of the factors bringing about the dilemma. Professor Boas traces the origin of the present dilemma from which the whole world is sick in so detached a manner, so thorough in its observation and yet so free from actual reference to existing weaknesses in our social fabric that one reaches the culmination of the argument on page 207 without once registering that resistant doubt instinctively used as a safeguard against the doctrinaire assertions of a lesser book.

The freedom of judgment thus obtained [says the author] depends upon a clear recognition of what is organically and what culturally determined. The inquiry into this problem is hampered at every step by our own subjection to cultural standards that are misconstrued as generally valid human standards. The end can be reached only by patient inquiry in which our own emotional valuations and attitudes are conscientiously held in the background. The psychological and social data valid for all mankind that are so obtained are basal for all culture and not subject to varying valuation.

The sciences which have made greatest strides in progress, that is, as Professor Boas would say, in increase of knowledge and control of nature, are the ones which have ruthlessly shaken off the shackles of their relationship to those social processes to which indeed they owe their origin. Anthropology has fared more poorly because, despite the existence of general laws relating to the growth of culture, these laws are themselves overlaid by a multitude of accidents more significant in formulating the course of human events than were the laws themselves. It is, in the long run, the good fortune of Anthropology that it could not become an exact science, for thus it escapes the dangers inherent in what Haldane has called the modern idolatry of physico-chemical realism which results in naive pronouncements upon human progress bounded by organic or at best by cultural predeterminism but nevertheless woefully inadequate to our salvation.

Professor Boas' analysis and interpretation of Anthropology rings true because it acknowledges the interplay of the three potent factors in human life, namely organic determination, cultural or emotional dominance and accidental circumstance. The reviewer can extract this leading theme but he can give no adequate impression of the skill with which each subject is presented or the mastery implicit in its handling. This second edition of the author's work has become more philosophical and therefore more forcefully persuasive than the first, stimulating as that certainly was. Paragraphs and sentences follow each other like the rapid blows of the blacksmith's hammer striking showers of sparks indeed from the moulding

metal which nevertheless glows with a genial warmth in the music of the impact. The text is packed with wisdom culled by a racing pen from one of the most alert and fruitful minds of our time. One is profoundly impressed by the range of information and by the dispassionate manner in which conflicting views and opinions are presented. But the great educational advantage to be derived from the book, an advantage not confined to the professional anthropologists who will study it, but equally open to the wider public who will take its lessons to heart, is its training in that intellectual and emotional freedom through which alone, our reason and instinct alike warn us, lies the safety of our own and our children's destiny.

The volume starts with a critical discussion of current theories on race. The reader's lack of warning combined with the suddenness and vigor of the author's attack immediately arrest attention and draw one on amid a wreckage of unsafe theories on Race, interrelationships of Race and Nationalism, through a reconstruction of inadequate current thought on eugenics and criminology, to a well-pondered philosophy of education and culture of the utmost value to students of biology and the social sciences alike who are alert enough to realize that the only way to meet successfully the accidental circumstance of the future lies in the development of responsible freedom based upon adequate organic health and emotional stability.

The proof-reading is excellent and we are spared that peppering of commas which is the besetting sin of contemporary stylists and the distraction of readers. The only flaws found by this reviewer are the substitution of Henry for Arthur Keith on page 84 and a stylist's comma (which also crept into the first edition) after the word *poor* on page 120 minimizing the forcefulness of a very colorful sentence.

T. WINGATE TODD

Primitive Arts and Crafts, An Introduction to the Study of Material Culture. R. U. SAYCE (291 pp., 58 figs., \$2.00. Cambridge at the University Press, New York: Macmillan Co., 1933.)

This useful addition to the growing collection of handbooks and textbooks on anthropological subjects serves as an introduction to the problems of primitive material culture.

The author frequently points out the superficial analogies of culture to the biological world. Perhaps the most fetching comparison is that of culture to biological associations (p. 2).

While agreeing in general with the precise and limited definition of invention given by Dr. H. S. Harrison, Dr. Sayce is

inclined to extend the term to include more and more loosely the origination of a new process, function, or material (p. 66).

Like most writers on Africa he is extremely cautious concerning the influence of Egypt upon the Negro cultures. He says (p. 190):

It is improbable that the civilisation of Egypt had practically no effect on the negro and Bantu cultures, yet it is by no means easy to find conclusive proof of this influence.

To the reviewer this caution seems overdone. The economic basis of Sudanese, East African, and South African cultures, as manifested in horticulture and animal husbandry, appears to the reviewer to comprise primarily Egyptian and secondarily sea-borne Indian and American traits. It is difficult to understand why there should be any more hesitancy about recognizing the hand of Egypt in the millet-beer-cattle complex of Africa than in recognizing the hand of Middle America in the maize complex of the New World. In neither case, of course, can the definite steps of the diffusion be traced.

From the New World Dr. Sayce draws his examples most frequently from the Eskimo area and South America, in the latter region using principally Nordenskiöld's valuable studies on material culture. In the Old World, Negroid Africa proves his principal mine of information.

The author's attitude toward the moot question of diffusion versus independent invention is commendably open-minded, as exemplified by his recognition of the important bearing New World culture has on this problem. References to the works of the ultra-diffusionists are conspicuous for their absence. The author relies upon the works of more conservative writers.

As a pleasant introduction to the study of material culture Dr. Sayce's book is to be highly recommended. He does not present bare factual material to the point of boredom. That which he uses is always to make precise a point or to formulate a problem.

A bibliography would have been a useful addition, but perhaps would have expanded the book unduly and increased the cost beyond the moderate price at which it is offered. A full index and copious footnotes in a measure compensate.

E. W. GIFFORD

Case Studies in the Psychopathology of Crime. Dr. BEN KARPMAN. (Washington, D.C.: The Mimeoform Press, 1933).

The first impression that one has of this six pound volume is that it is hardly worth it—a thousand large pages devoted to the medical and life histories of five psychiatric patients with criminal records. The synopses and epitomes are not good. So voluminous are the reports that, without a section of each case devoted to a succinct statement of the problem presented by each patient, one wanders for some time in a wilderness of data before the total picture begins to take outline. The case study is a tricky sort of didactic device; its intrinsic interest, if it is as well presented as it should be, may be actually inimical to the purposes for which it was set forth and a critical and selective estimate made difficult by the detail. And yet much is gained from the case material which Dr. Karpman has given so unstintingly *in extenso*, and the presentation is so complete that, by a process of gradual absorption, a real insight is gained into the dynamics back of the patients' behavior.

Dr. Karpman has adopted an unusual method of presenting his material. First in each case come the official records. Most of the cases had had one or more periods of institutionalization before coming under the author's care at St. Elizabeths Hos-

pital in Washington, D.C., and summaries of these periods are available, as are also other reports—service and penal records, and reports of contacts with various social agencies. Then come admission notes, statement of the complaint, reports of physical, psychometric and psychiatric examinations, hospital staff conference discussions and formal diagnosis. The bulk of the case study, however, consists of an autobiographical sketch done by the patient under the impetus of frequent conferences with the author in which are set forth in chronological detail the facts of the patient's life and personality development, his induction into crime, his reactions to prison and hospital, his progress under treatment and his plans for the future. One homosexual patient added an account of the homosexual problem as it exists in prisons; others told of such things as the mechanics and variations of numerous shady or criminal occupations—"con" and "badger" games, street-corner salesmanship, narcotic and bootlegging activities, and so on.

A novel note is struck by the inclusion, in a separate section of the case study, of illuminating descriptions of the patient by hospital attendants and by other patients—accounts of the sort of person he seems to be, of his behavior on the wards and of purely lay opinions concerning his symptoms and personality. There has been included also a number of letters written by the patient to one person and another, with critical comments on them by the author, pointing out the manner in which the fundamental personality trends are reflected in these letters. A brief recapitulation and exposition conclude the picture.

The clinical material includes a psychopathic hysteric who breaks under the strain of imprisonment and worry over a luetic infection, a psychopathic personality with convulsive seizures which were probably psychogenic in origin, a check-forging homosexual, a chronic alcoholic, and an incorrigible malingerer who took refuge from the consequences of his many crimes in assumed periods of amnesia. The biographical sketch of the last-mentioned is particularly interesting, since, in the lengthy and presumably therapeutic task of recording what was expected to be a frank account of himself, he continues the deceptive dramatization with unmitigated conviction, and gives a telling insight into the personality of this type of psychopath.

The most serious defect in these studies, certainly from the point of view of the physician, is the lack of critical selectivity. This is particularly true, interesting as they are, of the patients' own accounts, which seem to have taken their form only from the narrators' willingness to cooperate, and lack those essential and pointed delineations of motivation which would give dynamic significance to the episodes recounted. A remedy is to be offered, however, in

a parallel volume, based on the same cases as herewith presented but concerning itself mainly with an intimate psychogenetic discussion of the material. . . .

I rather imagine that the book will have its greatest value, not so much for the professional psychiatrist, though there is much there for him to get, as for the trained layman who must concern himself with that vague and protean group of people whom we designate as psychopathic personalities. The concept back of this label

is not an easy one to grasp, and one is often tempted to repudiate its use altogether rather than see it constantly misused by the poorly trained and slovenly-minded. Dr. Karpman has given us here and there among his comments illuminating bits which help to bring into sharper focus a subject which is, by its very nature, diffuse, and the present book, together with the promised second volume, has an opportunity to fill a real gap in our psychiatric literature

DONALD A. MACFARLANE

Einführung in die menschliche Erblchkeitslehre und Eugenik. K. SALLER. (307 pp., 82 figs., RM 24, bound RM 25 80. Berlin: Julius Springer, 1932.)

To those unfamiliar with the vigorous strides which physical anthropology has taken in the last decade or two, this book may serve as an illuminating introduction to the activity in at least one of its various fields. The unhealthy state into which physical anthropology was rapidly declining at the end of the last century has been dissipated, it seems to me, by genetical therapeutics and other nostrums of the newer biology. It is true that some of these may turn out to be merely as efficacious as a dose of patent medicine. But let us at any rate be grateful for a recovery. For if an active curiosity is an index of intellectual health, then physical anthropology may be regarded as a promising patient.

The volume in review has the virtue of gathering together some of the recent results of human genetics and population studies. The approach is not racial. On the contrary the emphasis is placed on the human organism as an individual and only secondarily on associations with the other individuals. After an introduction dealing with the principles of genetics, there is a section on human heredity in which constitution and endocrine factors are examined. The inheritance of individual as well as racial characters is considered next. The author concludes with sections on populations and various selective factors, and on eugenics.

One can easily think of a number of things which are omitted from discussion. But I suppose that a limit must be drawn somewhere. A complete introduction to physical anthropology would fill volumes. There is, however, one criticism which is perhaps natural for an American to make. Professor Saller seems only vaguely aware that he has fellow-laborers in this country as well as in Germany.

H. L. SHAPIRO

Beiträge zur Anthropologie Süd-Amerikas: Ergebnisse einer Forschungsreise nach Chile-Bolivien (1) OTTO AICHEL: Einführende Bemerkungen, pp. 1-2; (2) OTTO AICHEL: Die künstliche Schädeldeformation, pp. 3-62; (3) GUNNAR MÖLLER-HOLST: Der äussere knöcherne Gehörgang sudamerikanischer Schädel, pp. 63-122; (4) OTTO AICHEL: Epicanthus, Mongolenfalte, Negerfalte, Indianerfalte, pp. 123-166. (Zeitschr. Morph. Anthrop., XXXI [1], 26 ill., 21 tab., pp. 1-166, 1932.)

These "Contributions to the Anthropology of South America" are part of the results from a trip of exploration in Chile-Bolivia by Prof. Otto Aichel (Kiel), dur-

ing the years 1927–1928. It was his aim to seek new enlightenment on the problems of the age and provenance of man in America. Particularly promising in this respect seemed the Chilean-Bolivian coast regions with their natural avenues of approach from the north. Regarding skull deformation Aichel offers a comprehensive review of the various fashions and their interpretation by the authors (pp. 4–11, and again pp. 11–16).

Taking issue with Imbelloni's concepts of a lambda and inion applanation, Aichel first disproves the possibility of a cradle position of the infant's head upon the lambda, which according to Imbelloni brings about the "high" deformation in contrast to the "oblique" deformation caused by frontal and occipital boards and applied posteriorly only to the inion. The terms in characterization of the effects of these two assumed fashions of deformation, "high" and "oblique," refer to the direction of the so-called "general axes" of the deformatory trends in the skull in reference to a plane of cranial orientation, for which the reviewer, following Topinard's suggestion, has proposed a constructive scheme in volume XI of the Jesup Expedition Reports (1930, p. 18). But Aichel shows likewise that the board apparatus for anteroposterior compression as recovered by Debenedetti from a child burial in the Argentine province of Jujuy, may be applied above the inion, which according to Imbelloni is not feasible for mechanical reasons, and that any number of transitional deformatory effects are possible between the two extremes, lambda or inion pressure, in anteroposterior compression. While different techniques are thus likely to produce similar types, and similar techniques different types of deformation, it appears natural that the various kinds of deformation should be viewed from the standpoint of mechanical application rather than from the morphological or craniometric ones, which latter, on the basis of the midsagittal perigram and Klaatsch's trigonometric method, is preferred by Imbelloni. Aichel's division of cranial deformations comprise:

- (1) Principal types of anteroposterior compression with bilateral compensatory broadening, and cylindrical bandaging with compensatory lengthening;
- (2) Combinations of the former with occasional side board pressure;
- (3) Asymmetrical types, i.e., plagiocephaly resulting from pressure (in contrast to pathological plagiocephaly), including the forms with straight and deviating general axes, the latter in consequence of oblique bandaging.

Aichel's systematic investigation of the problem in question has led to a number of enlightening observations and deductions. Thus the non-parallel orientation in anteroposterior deformation, of the frontal and occipital planes of depression, gives rise to a *scherende Wirkung* (p. 21), i.e., a criss-crossing of forces about the connecting midline of those two planes. This phenomenon, as one of its manifestations, causes the foramen magnum plane to rise posteriorly (opisthion) and to intersect with the ear-eye plane of cranial orientation instead of anteriorly in indication of an advanced phylogenetic condition. This is fully corroborated in the reviewer's report on the Jesup crania (pp. 79, 81). However, he has called attention to another metrically verified phenomenon, namely, the probability in connection with exces-

sive anteroposterior compression, of a depression of the cranial base line by which the basion becomes lowered. In the Chinook the craniobasal angle nasion-basion- e^1 averaged 28.2° against 30.1° in undeformed crania from the North Pacific Coast, while the foramen magnum plane in relation to the ear-eye plane averaged characteristically $+0.3^\circ$ in the former and -6.6° in the latter. The rise of the opisthion therefore is neither pithecoïd nor regressive as assumed by Imbelloni, but traceable to purely mechanical influences. The reviewer considers of particular morphological importance Aichel's diagnostic evaluation (p. 50) of the eminentia rhomboidea s. bregmatica (*Schreiber*), a somewhat roughened area about the bregma with acutely angled extensions in the cranial midline upon the frontal and parietal bones. He found that the eminentia occurs preferably upon massy bony structures in deformed as well as in undeformed skulls, and that it develops there after the establishment of the deformation. It being hereby indicated that deformation, particularly bandaging, has nothing to do with its causation or that it is related to the form or behavior of the anterior fontanel, the cause of the eminentia is seen rather in the actions of m. epicranii whose frontal and occipital portions diverge according to the shape of this formation. Aichel furthermore points out that Falkenburger's assertion of the unchangeableness, under deformatory strain, of correlations in the mutual behavior of the cranial parts (*Arch. Anthropol.*, N.F., XII, 81-85) was negated by Imbelloni. Here is meant the rectangular relation between the glabella-lambda and basion-bregma lines as postulated by Klaatsch. Doubtless deformation does bring on changes, as is also shown by the reviewer in his study of the crania collected by the Jesup Expedition, where the "central angle" of Klaatsch averaged 91.6° in undeformed and 99.9° in crania deformed in the Chinook fashion. However, conformity as claimed by Falkenburger is not at all impossible under certain conditions which, referred to by the reviewer on p. 28 of his Report, occurs

when one considers that the relative position of the bregma and lambda points to one another, and that of both in relation to the glabella, was not disturbed by the deformation.

And indeed, deformation appears to affect considerably less Falkenburger's cranio-facial angle of rectangular relation between the nasion-basion and prosthion-bregma lines, which in the reviewer's Report averaged 89.3° in undeformed skulls, and 90.3° in the Cowichan, 91.8° in the Chinook, and 90.4° in the Koskimo deformations.

Aichel's material together with the remaining crania of the anthropological collection of the University of Kiel, altogether about 700 skulls, was used by Gunnar Möller-Holst for a study of the outer auditory meatus. The author by way of introduction gives an up-to-date account of the literature on auricular exostoses, osseous defects of the tympanic bone, and the form of the outer meatus. Although the distinction between hyperostosis of the free edge of the tympanicum and circumscribed exostoses of the meatus is fairly universally acknowledged (*Unter Exostosen werden*

¹ e denotes the anterior termination of a parallel to the ear-eye plane ($E-I'$) laid through the basion ($e-e'$)

ganz allgemein lokalisierte Knochenauswüchse verstanden, p. 73), there are quite varying opinions about the etiology. Causes are seen in pathological conditions either as of a local or a general organic character; in hereditary, constitutional and social conditions; in climatic and alimentary influences, domestication and even sea-bathing, and finally in artificial deformation. The time of their formation is also fairly generally assumed as fetal, i.e., at the time of the formation of the annulus tympanicus, although dissenting opinions claim a later origin up to the third decade of individual life. General agreement however prevails with regard to the view that auricular exostoses are not to be considered racial distinctions. Less definite is the view toward a relation between cranial deformation and exostoses, while a relation between deformation and osseous defects of the tympanicum which normally close about the age of five is almost generally accepted by various authors, and still more so the relation between deformation and the shape of the outer acoustic porus. Here, however, racial differences also obtain.

The skull material mentioned at the beginning of the preceding paragraph is listed on pp. 76-90, Aichel's South American series furthermore being grouped according to the various modes of deformation referred to above, and each individual skull annotated with the variations and anomalies under discussion. Möller-Holst's own investigations distinguish between (1) exostoses upon the free tympanic margin which, mostly of a spongy consistency upon the basis of tympanic thickenings, may also partly or totally be covered by compact bone; (2) upon the outside of the tympanic bone, always covered by compact bone and inside either solid or spongy; and (3) exostoses of the meatus proper arising from the compact stratum and attaining a variety of forms. Bilateral occurrence of the latter form was noticed in half the cases, of which 87% showed bilateral symmetry. The author mentions a prevalence of exostoses in western South America (p. 101) but denies a relation between this anomaly and deformation by the statement that exostoses occurred in his material in 15% of deformed and in 18% of undeformed skulls. Although these data appear quite convincing, and although the reviewer shares for the most part the author's contention, he found nevertheless in the North Pacific skulls deformed in similar fashions (Jesup Report XI, p. 253) that as to exostoses "deformation . . . may have a limited influence in their causation." He was led to this statement by the fact that in the material just mentioned no exostoses were accounted for in undeformed skulls, while in cylindrical deformation (Koskimo) they were found in 1.9%, in anteroposterior deformation (Chinook) in 23.4 per cent. However, Möller-Holst, justly mentions heredity in inbreeding areas as a factor of transmission, and quite interesting is also his statement of exostoses restricted invariably to thick-walled crania. Deformation according to the author is not responsible for tympanic defects in adults (p. 106), nor does it influence shape and size of the external meatus or rather the porus acusticus externus (pp. 107, 117, 119), although variations are numerous. He found the European larger than the South American pori. The reviewer cannot fully accede to the statement of non-influence of cranial deformation on the shaping of the acoustic porus, and refers to his findings upon North Pacific crania (Jesup Report XI, p. 363).

The final contribution in the volume under discussion on the variations of the eyelids is again from the pen of Aichel (pp. 123-166). It is an attempt, stimulated by somatic observations on his South American tour of exploration, to bring much needed clarification into the morphological concepts in connection with and on the basis of the anatomical behavior of the eyelids, particularly the upper one. By their recognition, differentiations upon the lids give rise to more exact morphological concepts depending, e g., on the formation of integumentary folds upon the orbital and palpebral parts of the eyelids, and again whether or not they are found upon their surfaces and margins. Lamentable confusions, e g., between the epicanthus and the Mongolian fold, for which greatly varying explanations are offered in literature, are thus eliminated and, always against the background of anatomical differentiation, a number of hitherto unrecognized formations are in turn brought to light. Because of their frequency in certain racial groups, the author calls them Negro, Hottentot, and Indian folds. He distinguishes thus 12 different "Plicae," which occasionally give rise to combinations among themselves. With due credit to other anthropologists treading similar fields of investigation, it is nevertheless the excellence of Aichel's diagnostic gifts witnessed also in other anthropological fields, which has created a comprehensible basis for specific racial investigation. Observations reaped there must, for their verification, be referred naturally to the anatomical and morphological bases, the clarification of which is of no small merit.

For American anthropologists the value of the present contributions lies in the fact that problems peculiarly pertaining to American physical anthropology are treated here in an exemplary way, and from this particular angle it is to be hoped that the author will continue his good efforts by further elaborating on the physical problems of this continent.

BRUNO OETTINGER

ARCHAEOLOGY

St. Albans and Hertfordshire Architectural and Archaeological Society. Transactions 1932 (283 pp., 38 pls., index. St. Albans, 1933.)

This publication is not a mere résumé of proceedings but is a record of archaeological excavation and research. The editor is Mr. C. E. Jones, F.S.A., who has contributed a paper on an ancient Welsh church (Eglwys Cymmin). Space precludes mention of others except those dealing with the excavations at Verulamium and at Baldock. Dr. and Mrs. Wheeler have briefly described the results of their work at Verulamium including the siting of the Belgic pre-Roman settlements and the great tribal dykes. The negative evidence that Verulamium was the site of Julius Caesar's victory over the Britons under Cassivelaunus seems conclusive. This site may be at Marford on the river Lea or Berkhamstead, as there is an ancient road from Cassiobury to Aylesbury which passes that way. Further excavations are in progress to solve the problem. The site at Baldock is similar to that at Wood-eaton and would appear to have been that of a country market at the meeting of the great main roads then in use. The coin records at present published indicate abandonment early in the fifth century and as there are no signs of violence this

may have been caused by depopulation due to migration. In this respect reference may be permitted to Gilbert Sheldon, *Roman Britain to Christian England* (1932) as there is considerable evidence now to show that after the Emperor Septimius Severus permitted the legionaries to marry and live in quarters (in Britain) the population underwent a similar change to that of Nubia after the Arab invasion.

A. E. ROBINSON

L'Adrar Ahnet. THEODORE MONOD. (Travaux et Memoires de l'Institut d'Ethnologie XIX. 8 vo., 201 pp. Paris, 1932.)

L'Adrar Ahnet is a district in the Central Sahara, a block of ancient rock in the midst of drifting sands. It is a notably arid region. It is true that there are in it one hundred wells or springs, but they are shallow and uncertain and the area measures 30,000 square kilometers. Its archaeology has been almost unknown. We now have a study of it by Theodore Monod. There are districts of the Northern Sahara of which we have considerable archaeological detail. Our author attempts to bring his observations into relation with this so far as possible—either complementing it or suggesting new interpretations. His work has been conscientiously performed. The archaeological material which he here discusses is of four kinds—monuments, petroglyphs, stone implements, pottery. He presents a rather confused classification of his "monuments," which range from stone signal heaps and goat-enclosures to tumuli and grave piles. The last are the most interesting. Of stone piles marking graves or forming part of them he excavated 43, of which 27 yielded human remains. He believes the others were originally graves, although they contained no bones. There are two chief types—*basinas* (simple heaps) and *chouchets* (where a somewhat carefully constructed tower or column of stones occur). In practically all the graves, the body was flexed and no especial rule of orientation was observed. Objects buried with the dead were uncommon. These graves appear to be Berber. Among Monod's "monuments," whether funerary or not, several curious types occur. Stone circles in considerable variety, some associated with graves, areas, crescentic and others, paved or laid with a sort of mosaic of small slabs; "V-shaped" constructions, where the stone pile extended from a higher, thicker, heap of stones, in two divergent lines suggesting a letter V (many of these only hint at a V-shape, the divergent lines shrinking or lacking). True megaliths are not found. The petroglyphs are many. Thirty-six localities yielded 378 figures, besides 19 inscriptions in *tifinar*. They give no decisive age determination. Many are surely *old*, but figures of different age occur in one group and on one rock surface. Patina does not help much. It is true that it presents color differences—from the light, recent, fresh cutting to the dark gray of long exposure. At best it can only be said that the dark gray gives only a certain minimum, since once darkened, centuries no longer deepen the color. Students of petroglyphs of the Northern Sahara have suggested classifications, but Monod finds neither of the two suggested applicable to this area. He therefore recognizes in his material two groups—pre-cameline and cameline. The characters of the first are: remarkable abundance of bovine representations, elephants, giraffes, and (?) rhinoceros; neither camel nor horse; human figures are without the "Libyan tuft," are

armed with bow and throwing knife; no *tifinar* inscriptions. The character of the second are: no elephants, perhaps no giraffe; camels and horses abound; human figures have the "Libyan tuft" and are armed with a round shield, metal-pointed darts, and a sort of sword or dagger; inscriptions in *tifinar*; patina usually light. Monod believes the evidence shows three stages of this Saharan district—one bovine, one equo-cameline, one cameline, in that order. Today the district is impossible for bovine and equine life. Among the animals represented, beyond those already mentioned, are antelope, gazelle, sheep, goats and ostrich. Interesting is the fact that the men of the second group are often steatopygic. Our author considers that the petroglyphs of the first group were made by a southern, agricultural, Negro population: the second group is Berber. If he is correct, a change has taken place in shield shape—the shield of modern Berbers being rectangular. The question of the disappearance of the horse, once occurring with the camel, is an interesting one. As concerns the lithic industry, stone implements occur everywhere. They may be scattered over the surface or concentrated at "sites." Sites present two conditions—homogeneity, and heterogeneity, i.e., the specimens may represent one culture or several. Our author claims that ancient palaeolithic, mid-palaeolithic and neolithic are represented. At times a single locality shows *coups de poing*, Mousterian "points," laurel-leaf blades, and polished *haches*, absolutely associated with no stratigraphic suggestion. He ascribes this, quite reasonably, to the winds; sands blown away have left the heavier stone and pottery objects absolutely in conjunction and as surface finds. At one place only, a rock-shelter, was he able to find anything like stratification, and there it must be confessed that the evidence was somewhat confusing, Mousterian types occurring with pottery fragments. Monod connects his neolithic objects with the southern, agricultural-fishing Negroes. Pottery is found everywhere as sherds. It has as yet been little studied and our author believes it deserves attention. He considers separately—modern, from the rock-shelter, from tumuli, ancient surface found sherds. Of the last he says: "this Saharan ancient pottery is without doubt Negro." His whole evidence seems then to show two populations, which in the past have occupied this territory. The older, a Southern agricultural Negro people, pressing up from the south into an area which then permitted a mode of life now impossible there; the newer, a Berber nomadic people, formerly using both horse and camel but later becoming a pre-eminently camel-using folk. An appendix gives measurements taken on the bones from the graves. There are many illustrations, maps, and a voluminous biography covering all the archaeological work so far done in the great desert.

FREDERICK STARR

ASIA AND OCEANIA

The Psychology of a Primitive People, A Study of the Australian Aborigine. STANLEY D. PORTEUS. (New York: Longmans, Green and Co.)

The book by Porteus, who is Professor of Clinical Psychology at the University of Hawaii, should, in his words,

touch the interests of not only the psychologists, but the sociologists and the anthropologists as well

It is an attempt by a psychologist to subject anthropological phenomena to a psychological analysis, and to apply to a "primitive" people certain measures of behavior which have been used with some success in our own group

A large portion of the book is devoted to a discussion of the results obtained by administering psychological tests to two groups of Australian aborigines, one in the region of Kimberley and another in Central Australia (the Arunta). The tests included a number of form boards, the Porteus maze tests, the Goodenough drawing test and various other tests of the performance variety. In view of the very severe and pertinent criticisms recently leveled against the use of psychological tests among peoples with a cultural background different from ours, it seems permissible to wonder why Porteus should have considered it worth his while to expend so much time and energy in order to collect this kind of material. Even in the case of non-language tests the results are influenced by so many uncontrollable factors that they can hardly be expected to throw much light on the question of Australian intelligence. Porteus seems willing to acknowledge this criticism of the testing technique as applied to "primitive" peoples, and himself makes some very important points in this connection, yet he uses the results to substantiate his conviction that "the Australians as a race are unadaptable to our kind of civilisation." The conclusion may or may not be correct, but his evidence is certainly inconclusive and, for the most part, irrelevant. The fact that certain Australian natives fell below the White norms in, for example, the Goodenough test, can hardly be regarded as very significant.

The comparison between the two different groups of Australians is, however, especially interesting. The Central Australian (Arunta) group was quite consistently better than the Kimberley group, and Porteus makes the important point that it is often misleading to accept the performance of one particular group within a race as necessarily indicative of the mentality of that race as a whole.

Porteus also made an interesting attempt to develop a test which would show the ability of the aborigines in a favorable light. Their skill in tracking men and animals and their reputed ability to recognize individual tracks gave him the idea for a test of "foot-print recognition." This test consisted of matching photographs of the foot-prints of eight natives; it is described by Porteus as

a test of perception and form discrimination, using material familiar to the aborigines

In this test the Australians did about as well as a group of white high-school students in Honolulu to whom this test was also administered. In view of the natives' unfamiliarity with photographs, this record is considered by Porteus to be exceptionally good; it seems to the reviewer that it should have imposed more caution in interpreting the results with other tests in which the material was more foreign.

In connection with the results of the tests, Porteus' own position is not quite clear. He makes some very pertinent observations as to the difficulties encountered in administering tests to natives—their occasional lack of motivation, the absence of the spirit of individual competition, their indifference to speed, etc.—and seems

on the whole to have been rather favorably impressed by their "intelligent" behavior. He is still prepared, however, evidently on the basis of these results, to end his book with the statement that

they are not unintelligent, but are certainly inadaptable to a civilised environment.

This clearly indicates a belief in an innate inferiority which the testing technique is incapable of demonstrating. Porteus' suggestion that these results can be of great value for comparative purposes when similar tests have been administered to other "primitive" peoples can hardly be accepted, since the backgrounds of these other peoples may not have the same relation to the type of ability demanded by the test situation. In the reviewer's opinion, little or nothing can be learned of the "psychology of a primitive people" from the results of the usual psychological tests, though they may be of great value indirectly by revealing *qualitative* differences of approach to the whole test situation.

The remainder of the book gives an interesting account of travel in Australia, and of the general features of the life and religion of the peoples visited. There are excellent psychological portraits of some of the individual natives, and frequent instances of a keen understanding of certain of their attitudes, as in the case of their "modesty" in dress, and their alleged "dependence" on the whites. Some of the other psychological excursions are rather less fortunate. The explanation of totemism, and the prohibition against eating the totemic animal, in terms of deliberate self-denial and mutual help seems quite arbitrary, especially in view of the fact that totemism is not always accompanied by such a prohibition. Exogamy is interpreted as a means consciously adopted by the elders of the tribe in order to lessen conflict and preserve the tribal unity. There is an attempt to understand certain aspects of the Australian religion and many of their attitudes as the effect of "loneliness" imposed by the great solitudes of the Australian desert. These hypotheses are admittedly put forward with considerable caution, but they represent a purely *a priori* approach to the phenomena of primitive life, with very little consideration for the underlying historical factors.

Excursions into the borderland field between sciences are interesting, but difficult. In order to be successful they require a knowledge of the techniques and subject matter in both fields, and a realization of the extent to which the methods of one are applicable to the other. As a study which touches both psychology and anthropology, this book raises the important problem of how these two may best be interrelated, and as to the part which the psychologist may play in helping to understand certain aspects of anthropological phenomena. So far the contribution of the psychologist has been mainly in the field of intelligence testing, and the anthropologists have been more than justified in their scepticism as to the value of such studies. It is probable that the psychologist would have more of significance to say, if instead of trying to test a large number of subjects in as short a time as possible, he would spend a considerable period of time with one group which he could learn to know intimately. Within that group he should be able to make interesting and important observations with reference to psychological attitudes, the development of person-

ality differences, the expression of emotion, the effect of the family or group life upon the individual, the nature of the deviant or the abnormal, the accepted criteria of excellence or defect within a group, etc.,—attitudes with which the anthropologist has so far not been especially concerned, and with which the psychologist may be expected to deal with some insight. A study of this kind would require a much longer time and a much more intimate acquaintance with the natives than that demanded by the conditions of intelligence testing, but it should tell us considerably more about the “psychology of a primitive people.”

OTTO KLINEBERG

Ethnology of Melanesia. (Field Museum of Natural History Guide: Part 5.) ALBERT B. LEWIS. (209 pp., 64 pls., map. Chicago, 1932).

This is one of the best museum guide-books it has ever been my good fortune to read. In compact form Dr. Lewis characterizes the main aspects of aboriginal life in New Guinea and the other Melanesian islands. No major phase seems to be slurred over, with the solitary exception of social organization, on which a fairly adequate summary would have been feasible nowadays. Dr. Lewis's treatment is especially noteworthy for its attention to those matters of daily routine which so many more pretentious writers treat with lofty disdain; and a special piquancy pervades the little volume from the many notes of personal observations with which the topical discussion is sprinkled.

ROBERT H. LOWIE

The Mayawyaw Ritual. 1. Rice culture and Rice Ritual. FRANCIS LAMBRECHT. (8vo., 167 pp. Washington: Catholic Anthropological Conference, 1932.)

In 1929 The Reverend Francis Lambrecht's Ifugaw Villages and Houses was printed by the Catholic Anthropological Conference. We now have a second monograph by the same author upon Rice Culture and Rice Ritual of the Mayawyaw (Ifugaw). It is the first part of a study which is to cover the entire ritual of that people among whom the author has long been a missionary. His complete investigation will be presented in seven parts:

- 1) Rice Culture and Rice Ritual
- 2) Marriage and its Ritual
- 3) Death and its Ritual
- 4) Property and its Ritual
- 5) Priests and Go-Betweens
- 6) Illness and its Ritual
- 7) Hunting and its Ritual

The central thought in the life of the Ifugaw is his rice-field and its yield. The ritual with reference to this is elaborate and complicated.

Each step in its cultivation has its special sacrifice in which the deities are called upon to protect the crop and make it grow.

After a brief description of rice culture our author takes up, one after the other, the sacrifices of the year. Thus:

pa'ngnga, when the seedlings are put in
elewo'ng, in January before planting (not annually, once in 3, 4, or 5 years)
-ulpi, after planting to make crops grow
lope'ng, about earing-time; neither general nor obligatory; protective
boto', the most important
hi'gnup, harvesting-time, conservation of grain; protection against theft and rats.

These have their definite times and relations. After hi'gnup there may be

lu-a't, a welfare ritual. And
pu'wo, occurs two days after a destructive typhoon.

After these important sacrifices a tu'ngaw is observed. It is a period of rest and taboo, ranging in duration and severity with the importance of the preceding ritual. The author gives the text of each ritual, a literal translation, description of the movements and doing of priest and participants, details regarding musical instruments and paraphernalia, and comments and explanations. There is, of course, a general ritual pattern, much the same for all, with details varying. The deities are many, of varied dispositions, and are appealed to as groups. The general order of a ritual is as follows: invocation to group after group of deities, announcement, sacrifice. The sacrifices may be first class (a pig, of good size) or second class (fowl). Meat, rice-wine, rice, and betel are also offered. A ritual in which first class or liberal sacrifices are made may be "solemnized"—given with greater dignity, special intonation, etc. The actual sacrifice takes place above a "ritual box," into which the blood is made to fall and feathers or bristles from the sacrifice are dropped. The priest then takes the sacrifice and sways it at various places to ensure welfare. The sacrifice is then plucked (if a fowl) and opened, and an examination is made of the bile-sac for augury. It is then taken for cooking, and a feast is prepared. While the cooking goes on, traditional magic stories are repeated, *runos* are planted (to ensure strong growth), and prayers are offered in which rice wine is sprinkled at the door posts and is sipped by the housewife and the priest. A sort of grace is said and feasting follows. At the harvest festival, bundles of rice (the first fruits) are put into a basket and prayers are made. Magic runs throughout the ritual. The things said and done force results. While the immediate and most evident desire is for a rice harvest, the ritual is a general fertility prayer and ensures increase in domestic animals and in the family. Our author closes his paper thus:

This then is the Rice Ritual of the Mayawyaw—a multitude of prayers, beliefs, and taboos. These and other rites, conceptions and observances to be dealt with in the succeeding papers are very deeply and very firmly embedded in the native culture. The Mayawyaw are powerfully gripped by them and strongly attached to them. It is, in fact, this whole magico-religious complex that offers the stoutest resistance among this remarkable mountain people to the spread and penetration of our own religious and secular culture.

FREDERICK STARR

Koreanische Landwirtschaft. Beiträge zur Völkerkunde von Korea I. (Abhandlungen und Berichte der Museen für Tierkunde und Völkerkunde zu Dresden, Band XIX.) M. HEYDRICH. (44 pp., 22 figs., 1 table. Leipzig: 1931.)

This study of Korean agriculture is based on a collection of agricultural implements from Quelpart in the Museum für Völkerkunde in Dresden. A Korean informant resident in Germany and a painstaking study of literature provided the rest of the data. Without first-hand knowledge of the country, the author has constructed a satisfactory presentation of the physical conditions, implements, and methods of farming in Korea, an interesting illustration of what may be done in library and museum, given also an intelligent native informant. The only implement quite alien to European peasant agriculture is the *gara*, a long-handled, rather last-shaped tool pulled by two persons and guided by one, which the author calls a *Ziehspaten*, though its function as a spade is not clearly indicated. In the uplands, back-furrowed fields and fire clearings planted chiefly to upland rice, legumes, and buckwheat are well described.

CARL SAUER

AMERICA

Omaha Secret Societies, R. W. FORTUNE. (vi, 193 pp. New York: Columbia University Press, 1932.)

In 1871 J. O. Dorsey began among the Southern Siouans the series of observations which bore fruit in his *Omaha Sociology* (BAE-R 3: 205-270, 1884) and in *A Study of Siouan Cults* (BAE-R 11: 371-422, 1894). He was followed by Miss Alice C. Fletcher and Francis La Flesche with their study on *The Omaha Tribe* (BAE-R 27: 1911), based on twenty-nine years of "more or less constant intercourse." Several years ago Dr. Fortune paid a three months' visit to the Omaha, devoting himself especially to a study of the secret organizations, of which the Water Monster society had survived. As a result of his inquiries he offers a revised picture of Omaha society. His predecessors, we are told, were misled by aboriginal ideology, and credulously described a democracy. Dr. Fortune

being of a sceptical nature, probed and an entire revaluation of Omaha culture appeared, with a very interesting discrepancy between theory and fact (p. 158).

In theory, the seven major chiefs rose from the group of subordinate chiefs by "potlatch prowess"; actually, the type of gift demanded for promotion was a family secret so that succession to office was controlled by the hereditary principle. In theory, priesthood was a gentile prerogative; in practice, it descended from father to son. In theory, a man entered a doctoring society by a vision independently experienced during his puberty fast; actually, this is a fiction, the novice being initiated by his father, father-in-law, or maternal uncle (pp. 1 f., 11, 155f., 158 *et passim*). Chiefs were members of the Shell society and could not belong to the doctors' associations (pp. 88, 154), so that Omaha society appears stratified into four classes: chiefs, priests, doctors, and the common people (pp. 1, 6).

A definite evaluation of Dr. Fortune's contribution cannot be made without a thorough comparative study of earlier Omaha sources and relevant material from Central Algonkian and Pawnee tribes. Pending such investigation, I accept as valid the importance of hereditary transmission but am unable to hail its formulation as an epoch-making discovery. It is true that Dorsey speaks of the social classes as "undifferentiated" (BAE-R 3:218), while Dr. Fortune stresses their distinctness. But the discrepancy is not so great as it appears. No careful reader of Dorsey can fail to note the frequency of hereditary transmission of rank and sacred knowledge (*op. cit.*, pp. 233, 248, 286); even in the feasting societies a man who did not attend a celebration might send his son (p. 342). On the other hand, if the number of chiefs proper was limited to seven, in what sense can we speak of a distinct hereditary class of chiefs? What was the status of the sons of such chiefs as a group? Did they, e.g., automatically rank the subordinate chiefs or the members of the Night Blessed Society (p. 149)? Are not the privileges of doctoring likewise restricted to individual junior kinsmen (p. 11)? Whence, then, the notion of hereditary non-overlapping castes?

So far as I can see, the new interpretation definitely formulates the significance of hereditary transmission of privilege without establishing a "prevailingly aristocratic" social practice. But this conclusion could come as a surprise only to those who persist in viewing Southern Siouans as culturally closely connected with say, the Crow and the Assiniboiné, whereas their affiliations are patently with the Winnebago, the Central Algonkins, and the Pawnee. Among the Menomini, chieftainship is hereditary in "the royal family of the royal gens," as Skinner grandiloquently puts it; and the headman of each gens must belong to a member of the "royal sub-gens," i.e., presumably of what we should now call the paternal lineage (A. B. Skinner, *Social Life and Ceremonial Bundles of the Menomini Indians*, AMNH-AP 13: 10, 22, 1913). The Winnebago chief was selected from the Thunderbird clan, although the selection was apparently restricted to certain families;

war bundles were connected with the clans but were practically "the private property of certain individuals or families." What is more,

there seems to have been a marked tendency for certain guardian spirits to be inherited.

Since spirits granted specific powers, a good hunter naturally wanted to make his sons good hunters, and so forth (P. Radin, *The Winnebago Tribe*, BAE-R 37: 209f., 290, 1923). In this context we must recall the contrast between the free visions of the Crow and the prompted, meticulously supervised quests of Ojibwa or Winnebago fasters.

Most significant, likewise, are the data from the Pawnee, fellow-Nebraskans of the Omaha. For here the hereditary principle rises to ascendancy, and war honors no longer give any special prominence

Chiefs, priests, members of societies, etc., serve for life and endeavor to qualify some of the brothers and nephews to succeed them. . . . The important position of chief, or official keeper of the village bundle, was regarded as strictly hereditary to the next of kin. . . .

Characteristically, while all medicinemen were supposed to derive powers from living creatures, they were

trained and not made suddenly through dreams or visions. It is true that such experience counted for much, but the usual way . . . was to succeed one's teacher at his death (James Murie, *Pawnee Indian Societies*, AMNH-AP 11: 556, 603, 643, 1914).

In other words, the Omaha situation is very much what one would conjecture from a knowledge of Omaha tribal affiliations and geographical position.

There is, however, one question that Dr. Fortune's interpretation raises without answering it. Says he:

. . . what a keen social conscience is shown in the fact that aristocratic privilege must be kept a secret, must never enter into social theory (p. 158).

How, we ask, does any such conscience evolve? Omaha society, as he defines it, is merely

an elaboration of the one ground plan, firm [sic] based throughout on class distinction and the hereditary transmission of privilege (p. 2).

We know various aristocratic societies which justify vested interests in terms of divine descent, divine command, or obvious superiority of the rulers. But what motive could make a culture that is

well-integrated, tight formed, not amorphous in the slightest

on the aristocratic pattern kowtow to ethical principles directly contrary to all its basic assumptions? Why should such a society stoop to mask the realities by a dogma of democracy? Some phrases suggest that Dr. Fortune is content to exhibit the miracle as a fact beyond which it is impossible to peer. "Being of a sceptical nature," I cannot simply accept the discrepancy between Omaha theory and fact as a sample of "what is known as cultural integration" (p. 158). Without pretending to know, I should suggest a solution in historical terms.

There are some very interesting data recorded in Dr. Fortune's monograph. For example, he notes a seasonal alternation as to rules of residence,—patrilocal residence being associated with the use of the tipi in winter and summer, matrilocal residence with the earth-lodge inhabited in spring and fall. The latter would unite father-in-law and son-in-law and favor the transfer of religious prerogative to the daughter's son (p. 24). This point certainly merits fuller consideration.

There are some further comments I feel obliged to make. A writer's style is so individual a matter that comment on it may seem impertinent in a scientific review, but my remarks shall be confined to the sole matter of clarity. Dr. Fortune's diction is so extraordinary that again and again it is merely possible to guess at his meaning. What are "vicariously pointed conversations" (p. 174)? What is meant by the sentence: "For this theory in part application Omaha again furnishes an empirical harmony" (p. 22)? On page 5 there are three successive sentences that would probably not be understood by any one unfamiliar with German syntax. And the following two sentences remain wholly unintelligible after a dozen attempts at grammatical analysis:

The more serious the irregularity, the more serious the *nonka* [punishment]—since the Omaha control absolutely what they choose to consider otherwise this can be arranged (p. 35).

The best informant thought deception or no deception they were all right, and most emphatically to him for danger and for the unclean (p. 53).

My second stricture may be directly correlated with the preceding one. Words may bear so different a connotation in Dr. Fortune's mind from their usual associations that natural interpretations of what he says are unfair to his meaning. However that be, his references to his predecessors *sound* offensively arrogant. He seems rather to pique himself on not being

excessively tender in . . . handling of the previous authorities (p. 2).

They are, indeed, credited with having done well enough on lesser subjects but "without adequate understanding" of that subject on which "Omaha retentiveness reaches its deepest," viz., the subject illuminated by Dr. Fortune (p. 2). Dorsey states that the Ghost Dance had not been danced for forty years. The author comments:

This is incorrect, and in other instances parallel statements are also incorrect (p. 75).

As proof he offers the account of an informant's undated experience (p. 79 f.). Are there not alternative explanations, such as the revival of a once obsolete Ghost Society? Such things have been known to happen. In any case, why are we asked to accept one bit of evidence in contravention of another? Again, Dorsey gives a translation of a native name for a dance. Dr. Fortune curtly declares, "Incorrect translation this" (p. 82). Whereupon he gives his own rendering. This may be correct, of course, but why should we take Dr. Fortune's word for it?

This dogmatism appears crassly in the discussion of "wakanda." According to the author, the word "was used as a term of address" (p. 29); and an aberrant instance in his own notes is brushed aside as incorrect, as "a very isolated breach" (p. 64). Whence this assurance? His predecessors again and again use the term descriptively. For example, an old man is quoted as telling Fletcher and La Flesche (BAE-R 27: 598):

Tears were made by Wakoⁿda as a relief to our human nature, Wakoⁿda made joy and he also made tears'

Is this using the term in address? From J. O. Dorsey's publications a respectable series of instances can be drawn invalidating Dr. Fortune's generalization. The returning warrior declares, "I tell the truth. Wakanda knows it" (BAE-R3: 328); the native term is here followed by the singular article *aka'*. Samuel Freemont, a pagan when interviewed by Dorsey, used such expressions as, "Wakanda has given him some assistance"; "Wakanda knows him"; "Wakanda has planned for his own" (BAE-R11: 374). Other examples occur on pp. 380, 383, 390. In virtually all these instances the statements are given in the original tongue. Why are they ignored by Dr. Fortune?

Again: Why the persistent use of the Algonkin term "Midewiwin" for the Shell

society? According to William Jones, the special function of the Ojibwa Midewiwin was concerned with life after death (Annual Archaeological Report, 1905, Toronto, 1906, p. 146). Is there any evidence of similar conceptions in the Shell society?

Finally: Dorsey states that the Ghost Dance was borrowed by the Omaha from the Ponca. The author comments (p. 75):

This probably refers to a style of dancing such as is frequently borrowed. The Omaha have so much everyday feeling about ghosts that I do not believe that they did nothing whatever about ghosts until the Ponca showed them what to do.

What is the relevance of this remark? It is one thing to say that a Ghost Dance performed by a society was borrowed, quite another to assert that all beliefs and practices about ghosts were borrowed.

ROBERT H. LOWIE

Mexico Before Cortez. J. ERIC THOMPSON. (298 pp., 33 pls., \$2.50. New York: Charles Scribner's Sons, 1933.)

A comprehensive and descriptive account of the ethnology of pre-Hispanic Mexico has long been needed. This want has at last been satisfied by Thompson's latest book, *Mexico Before Cortez*.

The chapters of this study are as follows. I. A Historical Outline; II. The Cycle of Life; III. Arts and Crafts; IV. Social Organization, War, and Trade; V. Religion; VI. The Calendar and the Feasts; VII. Priesthood, Sports, and Writings; VIII. Temples and Tombs.

From his contact with museum visitors and with students, Thompson is aware of the kind of information which is most sought. But the work under review is more than a series of answers to popular questions; it presents a picture of Mexican daily life which the author has pieced together from early Spanish records and from Aztec codices. In short, Thompson has carefully studied his source material, has selected salient facts, and has welded these together in such a fashion that he reveals the culture of the Mexicans (i.e. Aztecs, Texcocans, Toltecs, and other tribes of the Valley of Mexico) as a living well-rounded, civilized condition. This publication is not a list of curious practices.

Much may be expected from a book with such an alluring title, especially when it is carefully but joyously written by an author who has made many valuable contributions to archaeology and ethnology. The reader will not be disappointed.

Mexico Before Cortez is a most useful reference book, since there is no other recent, dependable study that is devoted entirely to Mexican ethnology. It should be of material assistance to students of introductory anthropology and will be interesting and profitable reading to the layman.

PAUL S. MARTIN

Forgotten Frontiers. ALFRED BARNABY THOMAS. (420 pp., maps, \$5.00. Norman: Oklahoma University Press, 1932.)

During the latter half of the eighteenth century Spain was experiencing great difficulties in holding together her colonial possessions north of Mexico. Savage

tribes constantly harassed her boundaries and internal settlements. During the '70's, the Governor of New Mexico reported that the Indians of that province were "harrying it with incessant robberies, attacks and murders" so that "in all its regions there is no safe place in which to keep horses or herds of cattle." In 1776 came a crisis, and Charles III inaugurated a new scheme to control and retain his hold in North America. One of the most outstanding men to whom the execution of this new program was entrusted was Don Juan Bautista de Anza, Governor of New Mexico from 1777 to 1787. It is about this man and his work that the present volume deals.

Anza must be regarded as one of the most remarkable of frontiersmen and colonizers of provincial America. Before coming to New Mexico he had served for twenty-five years with distinction and success on the Sonoran-Californian frontiers. His efforts and success in New Mexico were

little short of remarkable. He reorganized the towns and pueblos of New Mexico and built up their defense. He opened a route between New Mexico and Sonora for trading and strategic purposes. He carried aid and the offer of protection of Spanish arms to the Moqui, and saved that people from extermination by drought, disease, Utes and Navajos. Finally, he campaigned with brilliant success against the enemies of the frontier. Far up in present Colorado in 1779 he hunted down and defeated the Comanches. Next with kindness and rare political sagacity he won their affection, reconciled them with their bitterest enemy, the Utes, and then bound both to Spanish power by a defensive and offensive alliance against the Apaches. More, with this combined force of Spaniard, Ute and Comanche, he threatened the Navajo, forced them into the compact, required them to dissolve their agreements with the Gila Apaches and to declare war upon these former friends and allies.

The story of Anza's work is told by means of correspondence and diaries of Anza and his colleagues—priests, soldiers, administrators. There are seventy-three of these documents, all of them having been translated by Professor Thomas from originals (or certified copies) in the Archivo General de Indias, or in the British Museum. With one exception, all of them appear here in English for the first time. Some, but apparently only a few, have been published in Spanish before. The documents are grouped under such headings as "Spanish Proposals to Conquer the Moqui," "Governor Anza Establishes Peace with the Comanche Indians," "Governor Anza Dissolves the Gila-Navajo Alliance," etc. A good picture of Spanish colonial policy emerges from these accounts. A minute Historical Background sketch by the author precedes the documents. Editorial Notes, extensive bibliography, and a detailed index further enhance the usefulness of this work. A few reproductions of 18th century maps of the region are also included.

The anthropologist is glad indeed to receive this painstaking and scholarly work. Many accounts of Spanish exploration and conquest for the period beginning with Fray Marcos de Niza and extending to the aftermath of the Pueblo Revolt of 1680 have been available. But the eighteenth century has remained largely unknown. The student of Southwestern ethnology is very glad to have these accounts of the latter half of that century which tell of fights, migrations, droughts, conversions,

alliances, commerce, etc. They throw much light upon the antecedents of present-day ethnological problems. But, unfortunately, their assistance is quite limited in scope. There is very little information that deals particularly with problems of ethnology, such as social organization, ceremonies, or paraphernalia. A brief account of some ceremony, or custom, or of some important item of paraphernalia, for example, might be of the greatest value in historical reconstruction. If there be in existence Spanish documents containing such information, the anthropologist would be exceedingly grateful to scholars like Professor Thomas who might make them available.

LESLIE A. WHITE

Indian Removal: the Emigration of the Five Civilized Tribes of Indians, G. FORMAN. (415 pp., 14 ill., 6 maps, \$4. Norman. University of Oklahoma Press, 1932.)

This is an historiographical summation of the story of the trek of the five great Southeastern Indian tribes from their old homes to the Indian territory west of the Mississippi, about the third decade of the last century. The account is based on contemporary newspaper accounts and on government reports. There are no notes of ethnographical interest in the data assembled, and the author offers no interpretations of the material.

But the author has done splendidly what he set out to do, and the resulting volume is a contribution of value to frontier history.

The press of the University of Oklahoma should also be congratulated on the continuance of its policy of publishing books of more than transient value, and for its continued achievements in the fine art of bookmaking.

W. C. MACLEOD

MISCELLANEOUS

Man and Metals, T. A. RICKARD. (\$10. New York. McGraw Hill Publishing Co., 1932.)

During recent years Dr. Rickard has published a number of valuable papers and monographs on the use of metals in early times and among primitive peoples, and he has in particular analyzed the technical reasons for the late appearance of iron working in the history of civilization. Much of this work, published in engineering journals, has remained unknown or relatively inaccessible to anthropologists and its present incorporation in a general survey of metal working affords a welcome opportunity for calling attention to these valuable studies.

These two volumes survey the technical and social conditions of mining and metallurgy from prehistoric to modern times. A great deal of scattered material on the use of copper and iron and on primitive smelting methods is brought together with valuable illustrations. On the development of iron working Dr. Rickard reviews the strong evidence for assuming a meteoric or telluric origin of practically every iron object made in the Ancient World before about the middle of the second millennium B. C. He makes the important point for the student of discovery and in-

vention that the delayed appearance of iron working was due not to any inherent *difficulty* of process but to the *difference* of procedure required from the long established pattern of copper and bronze working. No new equipment had to be invented nor had any great skill to be acquired, merely an additional treatment, namely the prolonged hammering of the very unmetallic looking product of the furnace. Of this treatment of bronze and copper afforded no indication.

Dr. Rickard discusses at length the part played by metals in the colonization and trading of Phoenician and classical times and one regrets that he did not include in this book a review of the abundant evidence afforded by modern archaeological research of the important part played by the exploitation of metals in the diffusion of Mediterranean cultural elements and on the localization of cultures in Europe in the Chalcolithic and Bronze Ages.

This book, carefully documented and well illustrated, is of real value both to the archaeologist and to the student of culture history, and it will be unfortunate if its considerable price prevents its being widely known and used.

C. DARVILL FORDE

The French Race. JACQUES BARZUN. (275 pp., \$4 25. New York: Columbia University Press, 1932.)

This book is not an anthropological study of the French "race" but a historical essay on "the progress of the Nordic race idea in France" during the sixteenth, seventeenth, and eighteenth centuries. The author has thoroughly—in fact, completely—combed the writings of the French historians during those centuries. And his conclusion is that these historians were vividly conscious of an antagonism between the Nordic and Latin elements in France. Gobineau's writings on the racial superiority of the Teutons therefore merely continued a controversy that had long reigned in France.

J. SALWYN SCHAPIRO

SOME NEW PUBLICATIONS

- Abel, O. and W. Koppers. Eiszeitliche Barendarstellungen und Barenkulte in palaobiologischer und prahistorisch-ethnologischer Beleuchtung. I. Darstellungen des Hohlenbaren durch den paläolithischen Menschen, II. Der Barenkult in ethnologischer und prahistorischer Beleuchtung. *Palaeobiologica* 5: 8-64. Emul Haim and Co., Vienna and Leipzig, 1933.
- Agostini, Alberto M. Mi primera expedición al interior de la cordillera patagónica meridional Verano de 1930-1931. *Solar* 1931: 41-64. Universidad Nacional de Tucuman, Argentine, 1931.
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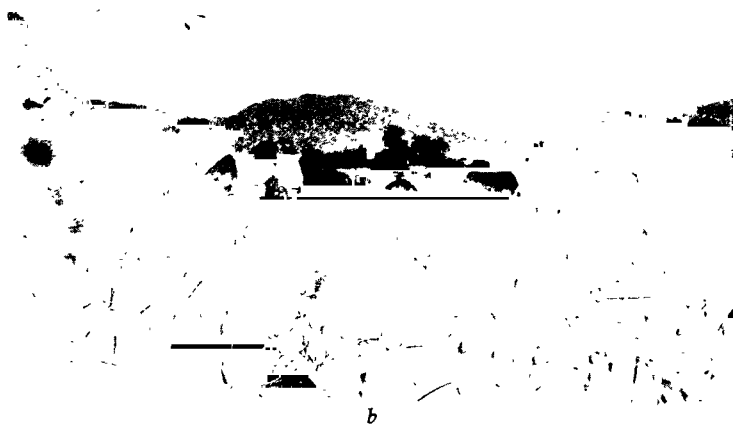
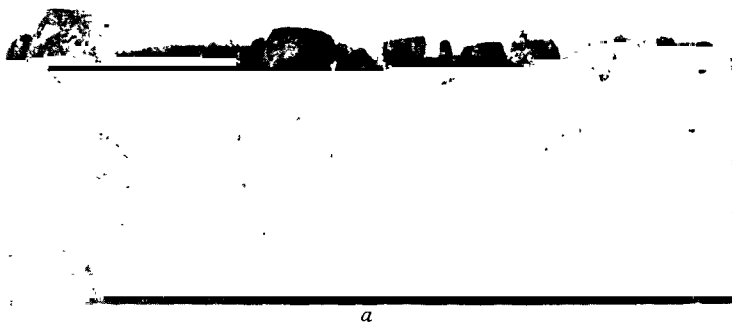
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Stone vats Plateaux du Tran Ninh, Indo-China

DISCUSSION AND CORRESPONDENCE

HUGE STONE JARS OF CENTRAL CELEBES SIMILAR TO THOSE OF NORTHERN INDO-CHINA

In 1917 while collecting natural history material in the central part of the island of Celebes I observed and photographed a number of huge granite vats. Later¹ I described these structures and a search of the available literature at that time revealed that nothing similar was recorded from the East Indian or Oriental regions. The only other objects that seemed at all related to these vats were recorded by Mrs. Routledge² from Easter island far out in the Pacific ocean.

Mr. T. Donald Carter of the Department of Mammals of the American Museum of Natural History, who has recently returned from the Legendre Indo-China Expedition, has kindly put at my disposal the accompanying photographs of a number of stone vats that he photographed on what is known as the "plaine des Jarres" on the Plateaux du Tran Ninh, about twenty miles northwest of Xieng Khouang, Laos, Indo-China.

He reports that on the Plateaux du Tran Ninh there are about 200 vats in three groups several miles apart. In a straight line this locality is about 2000 miles from Celebes with the South China sea, Borneo and Makassar strait intervening.

Just as the people of Central Celebes know nothing of the origin of the vats there, neither do the people of Indo-China know anything of the history of the vats of the Tran Ninh plateaux.

It is interesting to note that the Moi people of Southern Indo-China are very similar in physical features and cultural traits to the Dyaks of Borneo and the Toradjas of Central Celebes.

It is interesting to speculate on the possibility of the waning tribes like the Moi in Indo-China being descendants of once powerful people who made stone images and vats and migrated far out to the islands of the Pacific.

H. C. RAVEN

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MRS. BANDELIER'S TRANSLATION OF SAHAGUN

It is with a revival of pleasant memories that we find the name "Bandelier" on a book on Mexico. Mrs. Fanny R. Bandelier and the Fisk University Press should receive the thanks of students of ancient Mexico who can well feel gratified at having at last an adequate English translation of Fray Bernardino de Sahagun's valuable treatise. This together with the colored plates of the manuscript issued by the Mexican Government ought to give an additional zest to the work of research on

¹ H. C. Raven, The Stone Images and Vats of Central Celebes, Nat. Hist. 26, no. 3 272-282, 1926.

² Mrs. Scoresby Routledge, The Mystery of Easter Island, 1919.

ancient Mexico. No other single work so fully carries us into the living past as that of Sahagun. He is our chief contemporary authority on the Aztec culture and no other approaches him. He may truthfully be said to be the first ethnologist in the American field. Dr. Wissler writes in his Foreword,

His method should please even the ultra-modern field worker because he gathered about him selected native informants, first writing down in the original language what these informants narrated. Yet, not content with this procedure, other informants were sought out to listen to these texts and comment on their accuracy. Further, natives were encouraged to sketch and write in their own symbols, and finally with all these original materials in hand, the good father sat himself down to write.

Using the Bustamente edition, Mrs. Bandelier has translated most successfully the first four books. She has thoughtfully included in the present volume a biography of Sahagun from Icazbalceta and Chavero, a geographical sketch of the province of Leon where the birthplace of Sahagun is located, and the very useful and necessary material from the bibliography by Icazbalceta. The latter states that

the bibliography of Father Sahagun is perhaps the most difficult one in Mexican literature, for not only did he write a great number of books, essays, and articles on many different subjects in almost half a century, but he changed, rearranged and often extracted them for publication in so many diverse ways that they were often taken as parts at least of different books.

Finally there is an excellent index.

It is certainly to be hoped that the second and concluding volume will not be long delayed. Promise is given that further additions will be made to the Bibliography. Here we hope to find an account of the laborious and painstaking work of Pasoy Troncoso on the Sahagun manuscripts and the publication of these by the Mexican Government. No one is better fitted than Mrs. Bandelier to compare the texts of the Bustamente and the Troncoso editions.

A. M. TOZZER

SELK'NAM KINSHIP TERMS

Dr. Gusinde's list of Selk'nam (Ona) kinship terms¹ suggests a number of interesting points.

Eliminating phonetic refinements and in the interest of economy substituting for the author's rolled "velar guttural" the symbol "ρ" we may rearrange his data as follows:

aiinh	father	a'me	mother
tca'nyik	stepfather	po'onh	mother's sister, stepmother
po'ot, okwa'n	father's brother	kan	father's sister
tc'e	mother's brother		
ho'o	grandfather	ra'mhkep	grandchild
hoho'nh	grandmother	lal	son
		t'am	daughter

¹ Martin Gusinde, *Die Selk'nam, vom Leben und Denken eines Jagervolkes auf der Grossen Feuerlandinsel*, 418f, 1931.

ā'pek	elder brother	āpka'n	elder sister
a'tce	younger brother	a''anh	younger sister
a'nenk	{ stepson, brother's son (m.sp.) sister's son (w.sp.)	a'nxen	{ stepdaughter, brother's daughter (m.sp.) sister's daughter (w.sp.)
a'nuet		anue'ten	
	{ sister's son (m.sp.) brother's son (w.sp.)		{ sister's daughter (m.sp.) brother's daughter (w.sp.)
wi'yekar	male cousin (first to third degree)		
ka'nkar	female cousin (first to third degree)		
a'unk'en	father-in-law	wai	brother-in-law
a'remc	mother-in-law	wai'kter	son-in-law
namkc	sister-in-law	tamwe'xen	daughter-in-law

At a first glance it is obvious that the Selk'nam nomenclature is neither of the Hawaiian (Generation) nor of the more usual Dakota-Iroquois (Bifurcate Merging) type. In the first ascending generation, which experience indicates as of crucial importance, maternal and paternal kin are distinguished *both* from the parents and one another. To that extent then the system is Bifurcate Collateral, or—in Dr. Kirchhoff's terminology—of type A.² Correlatively with the distinction in the first ascending generation, there are distinct words for son, brother's son, and sister's son; though the term used by a man for his brother's son is equivalent to a woman's for her sister's son. Further, there are distinct words for daughter, brother's daughter, and sister's daughter, men again designating a brother's daughter by the term a woman uses for her sister's daughter. In Ego's generation we have the Lineal principle—Kirchhoff's type B or our English system—of separating siblings from more remote kin.

Functionally, we note first that the Selk'nam were not organized into exogamous clans of the ordinary type but into 39 localized paternal lineages, each exploiting a topographically delimited hunting territory. Superficially it might appear as though these lineages (called by Gusinde *Sippen*) were virtually true clans composed of blood-kin. Actually they differed in the crucial trait of looseness: blood-relatives were not allowed to marry, but no one knew the precise limits of kinship, hence rigid local exogamy with a predilection for mates from remote territories. To quote our author:

Die nächsten Verwandtschaftsgrade bilden uneingeschränkt ein Ehehindernis. Niemand aber weiss die Grenzen genau zu ziehen. Immer klingt die Mahnung wieder: "Der Bursche muss sich sein Mädchen aus weitabliegender Gegend holen! Je grösser die Entfernung, aus welcher die Braut genommen wird, um so besser für die Heirat!"

² Paul Kirchhoff, Verwandtschaftsbezeichnungen und Verwandtenheirat, ZE 64: 41-71, 1932.

The localized lineages, ranging from 40 to 120 persons, do not however imply major settlements in which the membership is permanently united. On the contrary, the normal phenomenon is economic exploitation by a single migratory family.³

These facts in their totality harmonize with the relationship terminology. The family, in the narrowest sense, is set off from collateral kin: uncles and aunts are not merged with parents; nephews and nieces are not confounded with one's children; cousins remain distinct from siblings. Further, the emphasis on local exogamy quite naturally leads to a division of maternal and paternal relations.

Levirate and sororal polygyny were both orthodox. The latter occurred "not infrequently," the former represented an obligation on the part of the deceased husband's brother, especially if single, to support the widow and her offspring.⁴ The terminological effect of these twin institutions is different from that commonly assumed. Instead of merging father and paternal uncle, the Selk'nam keep them distinct; and they merge not the mother and the maternal aunt, but—in consonance with sororal polygyny—the stepmother and the mother's sister. A similar effect of the levirate appears in the nepotic terms.

Dr. Gusinde's data are likewise suggestive from the angle of distribution. Systems with three separate terms for father, father's brother, and mother's brother, and corresponding terms for the female relatives in this generation, are by no means common. Some of the Eskimo tribes conform to this type, and so do a number of Californian and Basin peoples, e.g., the Paviotso. Although Dr. Kirchhoff, like myself, considers Bifurcate Collateral systems rare, I have found indications of such nomenclatures in the literature on the Araucanians and the Sipibo (Ucayali river area).⁵ It thus seems desirable to determine the precise South American range of this type.

In conclusion I should like to refer to the Selk'nam rule tabooing direct intercourse between a man and his wife's *father*. Though the mother-in-law is likewise held in high esteem, the avoidance rules apply particularly to the father-in-law. Conversation with him is possible only with the wife as an intermediary; and any orders by the older man are addressed to the air, as though in soliloquy. During the first year of marriage a similar taboo holds for a woman and her mother-in-law. Subsequently it is relaxed, but never to the point of permitting speech beyond what is absolutely required. As usual, the psychological justification given by the natives is the necessity for showing esteem to these connections by marriage.⁶

Gusinde's work is a veritable treasure-trove for comparative ethnographers. I earnestly hope that other specialists on North American tribes will examine it for features significant from a wider point of view.

ROBERT H. LOWIE

³ Gusinde, *op. cit.*, 302, 319, 419, 425.

⁴ *Op. cit.*, 338, 343, 347.

⁵ R. H. Lowie, *Culture and Ethnology*, 130f., 1917; Otto Burger, *Acht Lehr- und Wanderjahre in Chile*, 86, 1909; Karl von den Steinen, *Diccionario Sipibo*, 1904.

⁶ Gusinde, *op. cit.*, 332.

THE LINGUISTIC CLASSIFICATION OF POWHATAN

Years ago Gerard (AA, n.s., 6: 313 *et seq.*) tried to prove that Powhatan was a Cree dialect. This led to a controversy with Tooker, the main result of which was to show the incompetence of both. I therefore take up the subject once more and present it in the *AMERICAN ANTHROPOLOGIST* rather than in a linguistic journal because American ethnologists and archaeologists are both interested in the historical implications. Our sources are the vocabularies of Smith and Strachey. It can easily be shown that the vocabularies are independent; though elsewhere Smith frequently cribbed from Strachey or Strachey from Smith. It should be borne in mind that these vocabularies are very badly recorded and some words do not mean (as shown by the testimony of Algonquian languages in general) what they are stated to mean, and obvious misprints occur. Furthermore, so many words occur in many Algonquian languages and show nothing which is diagnostic of linguistic affiliations, that there is only a small residuum with which to operate. I am glad to say that small as this residuum is, it is decisive. Gerard was on the right track. The Cree affiliations of Powhatan are obvious in view of the words: *attemous*, dog; *woskan*, bone; *meskott*, the leg, *negeisp*, I am full; *muskan*, the forehead; *meskew*, the nose; *hamkone*, laddle; *huspissaan*, leap (this last only partially). Confirmatory are: *outacan*, dish (misprint for *ouracan*), *neir*, I; *quire*, thou. But Powhatan cannot be considered a Cree dialect in the sense, for example, that *Moose Factory*, etc. are. This is shown positively by the words: *nows*, a father (really, my father), *kowse*, father (really, thy father), *vhpoocan*, tobacco pipe, *nus*, three. Pointing towards this same conclusion are: *tapacoh*, night, *mekouse*, nails of fingers and toes. It all depends upon how accurately these words are recorded. The same applies to *mehkewh*, bill, beak, *meihtucs*, tree. If *musquaspenne* really means red potato (which the context favors) and is well-recorded, we have positive proof that Powhatan has very close Cree affiliations, but that it can not be classified as a mere Cree dialect. If the word is well-recorded and means bear potato (*cf.* Fox) we have only proof of the close Cree affiliations. If *hauquequins*, a little stone pot, is well-recorded, we have proof that Powhatan can not be classified as a mere Cree dialect, and it would indicate that where *s* is recorded before a stop consonant probably *x* or *'* is correct: and would be additional proof that Powhatan is not a mere Cree dialect. The word *vsqwaseins*, girl, is favorable to close affiliations with Cree, but is not decisive. If *Anbomesk*, a village of the Powhatan confederacy (reference misplaced), means "white beaver" and is properly recorded, close Cree affiliations are confirmed. A few other words are favorable to Cree affiliations; but differences in vocabulary show Powhatan is not a mere dialect.

Summing up, we may say that Powhatan clearly belongs with the Cree group of Central Algonquian languages, that it is closer to Cree than to any other member of that group, but that it can not be classified as a mere Cree dialect. A prehistoric migration is thereby shown.

TRUMAN MICHELSON

NORTH RUSSIAN TRIBES

A census of the tribes of northern Russia is published together with statistics about farms, households, literacy, hired labor, occupations, and mortality rates in a sociological review, *The Population of the High North according to Data of the Census of 1926-27*, by P. Y. Terletsky, in the *Journal of the Institute of the Peoples of the North* under the Central Committee of the U.S.S.R., *Transactions of the Research Association*, volume 1, issue 1-2. The population figures are as follows:

Tribe	No. in high North	Per cent of total of tribe in North
<i>Finno-Ugro-Samoyed</i>		
Saomi (Lapari)	1682	98 0
Nentzi (Samoyed and Urak)	15274	87 0
Khante (Ostyak)	12983	58 2
Manssei (Vogul)	5468	95.2
Selkupi (Ostyako-Samoyed)	1355	83 1
Kami (Ishemtsei)	7680	3 4
Kareli	388	0 1
Finns	1428	1 1
<i>Turki</i>		
Yakut	22448	9 3
Dolgani (Sakha)	1058	100.0
<i>Tungusso-Manchu</i>		
Evenkis (Tungus, Orochin)	17513	46.7
Evenni (Lamut)	2224	100 0
Nannet (Orok)	157	96 9
<i>Paleosiatatics</i>		
Luoravedlani (Chukchi)	12364	100 0
Nymillan (Koryak)	7387	99.9
Itelmen (Kamchadal)	3837	91 0
Odooh (Yukaghir)	501	100.0
Eteks (Chuvantzi)	707	100.0
Keti (Ennsaitsi)	1046	73 2
Nivookhi (Gilyak)	1664	40.8
<i>Eskimos</i>		
Yuti (Eskimo)	1251	96.8
Unargane (Aleut)	335	94 9
<i>Slavs</i>		
Russians	44240	0 05
All Others	1911	—

SOME NOTES ON THE SNAKE PICTOGRAPHS OF NINE
MILE CANYON, UTAH

Nine Mile Canyon is thirty-seven miles southwest of Myton and about fifty miles east of Price, Utah. The canyon floor, through which there runs a stream of

clear water to join the muddy Green river, known as Minnie Maud creek, is scarcely over a quarter of a mile in width anywhere. Bordering this narrow ribbon are walls with outward slopes that often exceed 500 feet in height. The edges of the adjacent mesas probably exceeding 1,000 feet in elevation above the valley, while canyados cut the cliff-mesa walls at right angles to join the master canyon.

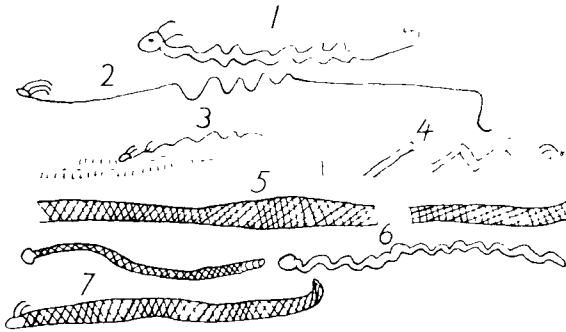


FIG. 1. Snake pictographs of Nine Mile Canyon, Utah: 1. The double-headed, three-horned snake of group N-P39. (The "N-P" stands for Nine Mile Canyon pictographic group; the numbers indicate the groups examined and photographed by us in the order seen.) 2. The three-horned snake of N-P13B. 3. The lightning snake of N-P25, not of the rain drops represented as falling as it darts through the storm clouds. 4. The feathered snake of N-P29. 5. The diamond-spotted rattler of N-P7, whose head and tail are now both gone as a result of the wear of time. A coiled spotted rattler is also shown in N-P3A. 6. The snake of N-P21. 7. The diamond-spotted rattlers of N-P47, one of which is plumed.

The ancient inhabitants (Basket Makers, Fremont culture people, and especially the Pueblos of Pueblo No. II times) of this picture-que canyon left their rock writings on every suitable rock face that they could find. Among these glyphs are numerous drawings of snakes, several of which are diamond-spotted rattlers. Many of these are much like and several exactly like the Southwestern plumed, horned or feathered snake drawings, and conjecturally somewhat like, or at least suggestive of, the "Great Plumed Serpent" drawings of Mexico and Yucatan. Some of the drawings of these plumed reptiles seem to be represented as having been drawn on long strips of buckskin, or were wood carvings, which were either placed in front of ceremonial actors or carried in a procession in certain ceremonies. The drawings also seem to show that snake (also lightning, and possibly fire dragon) worship was a part of the worship of the ancient peoples of this region.

ALBERT B. REAGAN

OURAY, UTAH

KICKAPOO

In the synonymy at the end of the article Kickapoo (BAE-B 30, pt. 1) we read "Yuntara'ye-ru'nu—*Ibid.* (tribe living around the lakes) another Huron name." Gatschet's Wyandot MS. of 1881 is the authority to which reference is made. A few

words of explanation are due. I have consulted Gatschet's MS., and find it given there as the name of an unidentified tribe on the southern shore of Lake Michigan. However, a copy of a part of Potier's MS. (dated 1751) in possession of the Bureau of American Ethnology reads Ontarayeronnon = Kikap8. This settles the identification beyond possible refutation. I regret to say this important information is not in Bulletin 30 of the Bureau, and Ontarayeronnon is not in the said synonymy, nor in the one at the end of part 2 of Bulletin 30; but note we find in the second one "Ontaraeronon, Ontarahronon = Kickapoo" both of which synonyms are lacking at the end of the article Kickapoo in part 1; observe the contradiction given in the article Ontarahronon in Bulletin 30, part 2.¹

TRUMAN MICHELSON

GUILLAUME DE HEVESY'S PUBLICATIONS

Within the last two years two remarkable contributions have been offered to anthropology by Guillaume de Hevesy.¹ In a bulletin published by the London Institution's School of Oriental Studies de Hevesy challenged the existence of a genetic relationship between Munda and Mon-Khmer and of Father Schmidt's Austriac Family,² and in a more substantial work³ undertook to demonstrate a genetic relation between Munda and the Finno-Ugrian stock.

There can be little said against the crushing bulk of Mr. de Hevesy's linguistic demonstrations. Should some of them prove daring, nay, erroneous, the great mass of his material cannot be upset. Many who shook their heads suspiciously at the early and daring works of Professor Sapir on Paiute and Southern Nahuatl had to admit later that the "flair" of a man of genius is able to see beyond a few technically incomplete demonstrations. But whenever Mr. de Hevesy makes use of a demonstration which is not entirely convincing, it is usually one set forth as a further proof of a fact already clearly established.

De Hevesy's discovery of the Finno-Ugrian parentage of the Munda group supersedes his earlier acceptance of Father Schmidt's Mon-Khmer conclusions in an early work, *Munda-Magyar-Maori*, published under the pen-name F. A. Uxbond. Further study led de Hevesy to the conclusion that the deductions made by Father Schmidt were untenable. De Hevesy's phrase on page 190 of the Bulletin, "It is

¹ The identification given on p. 202, vol. 73 of the *Jesuit Relations*, ed. Thwaites, is an error, presumably Potier's work was not available.

² In addition to the works cited, the author had access to a communication read by Professor Pelliot to the Académie des Inscriptions et Belles-Lettres Sept. 16, 1932, the MS. of a lecture by Guillaume de Hevesy at the Musée Guimet, Paris, and private communications and photographs put at his disposal by Mr. de Hevesy. Professor Robert Heine-Geldern, *Das Geheimnis einer Schrift*, Pester Lloyd, Nov. 27, 1932, contains a good exposé of Mr. de Hevesy's discoveries concerning the Easter island scripture.

³ On W. Schmidt's *Munda-Mon Khmer Comparisons: Does an "Austriac" Family of Languages Exist?* *Bul. School of Oriental Studies, London Inst.* 6, pt. 1: 187-200, 1930.

⁴ *Finnisch-Ugrisches aus Indien*, Vienna, 1932.

regrettable that W. Schmidt has not noticed in the very next line of the dictionary" (of Campbell), could serve as a motto for almost 70 of Father Schmidt's "comparisons" of Munda and Mon-Khmer words. It is obvious now that the root of the Munda words is by no means the second syllable, but clearly the first. One can not very well compare digic (to doubt, to offend, to suspect, etc.) with the Bahnar word gögek (to tickle), and the Khmer word Dangic (to injure), when in the next line of Campbell's dictionary he could find digdha (to doubt), digak (to be in doubt, doubtful).

De Hevesy's constructive solution is set forth in the brilliant linguistic work much too modestly entitled *Finnish-Ugrisches aus Indien*. A discussion of linguistic niceties cannot be aimed at in this journal, and no *Stichprobe* could give the reader an idea of de Hevesy's exact demonstrations. In dealing with his material Mr. de Hevesy had the great advantage of being Hungarian, having at his disposal a perfect knowledge of at least one of the languages involved. And it may be added that he has put forth entirely new ideas on obscure points of Hungarian linguistics, notably concerning the possibility of retracing an extinct category of animate and inanimate by the plural formations in -ok (for animate) and -ak (for inanimate). The strange existence of the article *a* (or *az*) in singular in the middle of various sentences in plural (elloptak a lovainkat = sie-stahlen *das* Pferde-unsere = they-stole *that* horses-of-ours) has also been tackled, and perhaps not unsuccessfully. The phonetic, morphologic, and lexicographic parallels are stunning—and simple—for a man of Mr. de Hevesy's abilities. One might desire a more detailed phonetic demonstration for every word, because it is very strenuous to go back at every step to the chapter on phonetics. This, however, is not a criticism, but the complaint of an average reader.

Comparatively the chapter on declension is less good, but still remarkable. Mr. de Hevesy had not known that several weeks after his book was published Mssrs. Meillet and Sauvageat were to point out in a discussion at the Société de Linguistique that the Finno-Ugrian declension emphasizes the realistic cases (instrumental, ablative, locative) while the Indo-European favors the abstract ones (genitive, dative).

When in his lexicographic analysis de Hevesy points out that both Munda and Magyar use two varieties to define the species (hay-and-straw in Magyar, grass-and-straw in Munda, etc.), or when reiterations of the type súg-búg are to be found in identical ways in Hungarian and Munda, nay, when a phonetic parentage can be traced, there can be little said against him. There remains of course the arduous point of infixation in Munda. Further evidence will be required before settling this point, but as Mr. de Hevesy points out, what little is known of Munda infixes can not very well be used to prove that Munda is not Finno-Ugrian.

Like everyone else, Mr. de Hevesy thought it was his right to draw historic inferences from his discovery. He states it as his belief that the Aryans found a great Finno-Ugrian civilization in India, and that the Turkish aristocracy of the Magyar invasion in Europe had Munda-Finno-Ugrian troops.

Mr. de Hevesy's discovery concerning Easter island will be dealt with more summarily. It has stirred up endless comments and almost undivided admiration. The facts are plain: The bustrophedon scripture of the famous Easter island tablets is closely related, one may almost venture to say identical, with the signs of the Mo-henjo-Daro seals. This similarity goes deeper than superficial resemblance of graphic representations. When fishes are accompanied by what we may call for simplicity's sake "accent circonflexe," or when human figures hold in their hand huge U-shaped unidentified things, one may still be supercritical and quote chance. But when signs where the original meaning is no more discernible, are found to be identical, complex signs, nay, sign-groups, the possibility of chance is at once eliminated, and another riddle is offered to the anthropologist: What is the connection between Mo-henjo-Daro and Easter island?

Mr. de Hevesy has an explanation. If he had not put it forth, others would have. We have to take cognizance of it. Whether or not his inferences—or the inferences of anybody else—are correct, we cannot know. But the facts, the plain facts, remain. Mr. de Hevesy had the courage and the intelligence to look for the right thing in the right place. A group of brilliant scientists is actually busy clearing up every detail available.

In any case the signature of Easter island chiefs, and also the signs on the statues of the same island are different from the scripts of the tablets. One may believe that they belong to another civilization. Many things point to Indo-Polynesian relationships, from Quatrefages to Hornell's work on the canoes of Coromandel.

We cannot concern ourselves here with Prof. Heine-Geldern's recent paper "Die Urheimat der Austronesier" in *Anthropos*, where the theory of Polynesian migrations is once more receiving a new and—so it seems—better shape. But whatever the explanations may be—and de Hevesy admits Heine-Geldern's conclusions—the facts of his discovery remain. What anthropology is starved for are facts—bigger and better facts.

GEORGE DOBO

NOTES AND NEWS

FATHER A. G. MORICE, O.M.I., by a unanimous vote of the joint committee of the Senate and Council of the University of Saskatchewan, was, on May 12th granted the honorary degree of Doctor of Laws "in recognition of his eminent contributions to Anthropology and History." The immediate occasion of that step was the recent publication of his monumental work on *The Carrier Language*. The President of that University came all the way from Saskatoon to Winnipeg to invest him with the insignia of his new degree. Dr. Morice was the first M.A. of that Institution.

TIBETAN-ENGLISH DICTIONARY: A Comprehensive Dictionary of the Tibetan Language with Sanskrit equivalents of important terms, loan-words and data on Tibetan living dialects by Georges de Roerich in collaboration with Lama Lobzang Mingyur Dorje will be issued in the course of 1934 by Urusvati Himalayan Research Institute of Roerich Museum, Naggar, Kulu, Punjab, India; and 310 Riverside Drive, New York. The same Institute has in preparation three volumes of *Tibetica*: Tibetan Dialects of Lahul, by Georges de Roerich, *Life of Mar-pa*, translated from the Tibetan text by de Roerich, and *History of Buddhism* by Padma dkar-po, translated by de Roerich. Volume I (1931) of the *Journal of the Institute* is available for \$.75, and volume II (1932) for Rs. 5. Volume III is in preparation.

THE SOCIAL SCIENCE RESEARCH COUNCIL list of appointments for the academic year 1933-34 includes the following grants-in-aid of anthropological research:

JOHN M. COOPER, Professor of Anthropology, Catholic University of America, to aid in the completion of a study of the ethnology of the James bay area.

MELVILLE J. HERSKOVITS, Associate Professor of Anthropology, Northwestern University, to aid in the completion of an ethnographic account of the Negroes of Dahomey, West Africa.

ROBERT A. MCKENNAN, Instructor in Sociology, Dartmouth College, to aid in the completion of an ethnographic study of a Kutchin group of Athabascan Indians in Alaska.

RONALD L. OLSON, Associate Professor of Anthropology, University of California, to aid in the completion of a study of the social organization of the Tlingit Indians of Southeast Alaska.

The following Fellowships were granted:

LESTER E. KLIMM, Assistant Professor of Geography, University of Pennsylvania, for a study of the relation between the physical environment and the economic problems of the people in the west of Ireland.

CHARLES P. LOOMIS, Assistant and Tutor in Sociology, Harvard University, for a study of the typological method of research in sociology, to be carried on in Germany.

THE DEPARTMENT OF MIDDLE AMERICAN RESEARCH, the Tulane University of Louisiana, announces its Middle American Pamphlets, to be collected as Publication No. V of the Middle American Research Series. Individual pamphlets are available at fifty cents apiece.

THE DENVER ART MUSEUM now has available bound editions of the first fifty numbers and index of its Indian Leaflet Series for \$3.25. Single copies range in price from \$.10 for one, to \$.03 apiece for over 500 copies of a single issue. The leaflets are prepared by F. H. Douglas, Curator of Indian Art of the Denver Art Museum, in collaboration with Dr. Jean Allard Jeancon of the Bureau of American Ethnology.

THE ACTES DU DEUXIEME CONGRES INTERNATIONAL DE LINGUISTES may now be purchased, by American members of the Congress for Swiss fr. 21.80; by non members for 25 80. Remittances should be sent to MM. Pictet et Cie, 6, rue Diday, Geneva, marked "Actes du Congres de Linguistes."

PROFESSOR V. SUK presented at the York meeting, 1932 of the British Association a paper on Human Races on the Basis of Serological Tests, an abstract of which appears in the British Associational Journal—Sectional Transactions.

ANTIQUARIATSKATALOG NR. 679 "PRÄHISTORIE Eine Sammlung von Zeitschriften, Büchern und Monographien zum Teil aus dem Besitz von Dr. H. Moete-findt, Leipzig," may be obtained from Buchhandlung Gustav Fock, Postschliess-fach 100, Leipzig.

THE BULLETIN DE LA SOCIÉTÉ SUISSE D'ANTHROPOLOGIE ET D'ETHNOLOGIE 1932-33, containing the annual report, list of members, résumés of communications presented before the anthropological and ethnological section of the Société helvétique des Sciences Naturelles at Thoune in August, 1932, and a memoir, Beobachtungen über die Handform bei Schweizern, by Otto Schlaginhaufen, may be purchased for 3 francs by addressing the Institut anthropologique de l'Université, Zurich 7, Plattenstr. 9.

MISS FRANCES DENSMORE, collaborator of the Bureau of American Ethnology, returned on February 20 from field work among the Alibamu, Choctaw and Seminole. More than 200 songs were recorded on the trip and specimens obtained in each locality. The observations yielded interesting data on the connection between music and the former contacts of the tribes.

THE JOINT MEETING of the American Anthropological Association and Section H, American Association for the Advancement of Science, in Chicago June 22-24, held three sessions devoted to Ethnology, Archaeology, and Physical Anthropology, respectively. Papers were presented by Drs. Laufer, Herskovits, Brown, Redfield,

and Sapir; by Drs. Olmstead, Speiser, Caso, Parr, Field, and Krogman; and by Drs. Todd, Addison, Donaldson, Herrick, Papez, and Kappers, in the respective fields. Dr. C. U. A. Kappers gave the evening address at the annual dinner June 23.

THE FORTY-EIGHTH ANNUAL REPORT of the Bureau of American Ethnology is the last of this series to be published in royal octavo size with accompanying scientific papers. In the future, annual reports of the Bureau will consist only of the administrative report, which will be issued in octavo form.

DR. E. L. MILOSLAVICH, Milwaukee, formerly Associate Professor of Pathological Anatomy at the University of Vienna, Austria, and later Professor of Pathology and Director of the Department of Pathology and Bacteriology at Marquette University, Milwaukee, was nominated by His Majesty King Alexander I of Yugoslavia as Professor of Legal Medicine and Director of the Medico-legal Institute at the Royal University, Zagreb, Yugoslavia, for which position he is soon departing from America.

THE AMERICAN COUNCIL OF LEARNED SOCIETIES offers in 1934 grants in aid of research and post-doctoral fellowships for training and research in the humanities. The grants are in two categories: small grants, not exceeding \$300, and larger grants, not exceeding \$1,000. Applicants for grants must possess the doctorate or its equivalent, and must be actually in need of the desired assistance and unable to secure it from other sources. The grants are made for specific purposes (other than living expenses or in lieu of salary), such as travel, photostats, secretarial assistance, etc., in connection with projects of research actually under way.

The fellowships have a basic stipend of \$1,800, to which allowances for travel, expenses of research, and other purposes may be added. Applicants must have the doctorate, must not be more than 35 years of age, and must have demonstrated unmistakable aptitude for constructive research.

Information respecting grants and fellowships, as well as application blanks, may be secured from the American Council of Learned Societies, 907 Fifteenth Street, Washington, D. C. All applications must be filed by December 15, 1933, and awards will be announced in March, 1934.

DR. KONRAD HORMANN, prehistorian of Nürnberg, Germany, died on May 2, 1933, at the age of 73 years.

WE REGRET TO NOTE the death of Professor Frederick Starr which occurred in Tokyo on August 14.

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ETHICAL ATTRIBUTES OF THE LABRADOR INDIANS¹

By FRANK G. SPECK

THE Montagnais-Naskapi of the Labrador peninsula illustrate for us, as well as any contemporary human group could, I fancy, an example of the intimate, face-to-face type of society which is so often sought for by the social theorists. We have some of these types of cooperative primitive society in Australia, South Africa and South America. They are primary in pattern, since, through the intimate association of individuals forming them, the social fusion of kin results in producing a community whole within which there is a tendency toward harmony and the most thorough-going cooperation. Strife is scarcely present; violence strenuously avoided; competition even courteously disdained. These, they think, lead to ridicule. In their place are met subjection of self, generosity in respect to property, service and opinion, the qualities which we often speak of as being found in "good sports," and which seem to develop as social habits. And these are the qualities that to them represent honor and a welcome place in the thoughts of their associates. I would agree with Cooley² in assuming that the differences between these Labrador nomads and modern Europeans are neither in human nature nor capacity, but in organization. The elaborate and artificial development of ideas and sentiments that go to make up institutions is wanting. Universal stable human nature is here met in its baldest guise, as a trait in the society of the primary group. Westermarck attributes this to even the lowest of savages.

¹ Research in the Montagnais-Naskapi area was obviously made possible for me through resources furnished by several institutions over a period of years. Hence the usual acknowledgements for its support are tendered to the Directors of the National Museum of Canada, the American Museum of Natural History, the Museum of the American Indian (Heye Foundation) and the National Museum of Denmark for which ethnological collections were made in respective succession from 1912 onward. A grant from the Faculty Research Fund of the University of Pennsylvania, in 1931-2, contributed means for the pursuit of special research in the field of religion and behavior along lines previously planned.

² C. H. Cooley, *Social Organization*, New York, 1911, p. 29.

By the cardinal categories of ethical behavior, recognized as fundamentals, embracing positive and negative phases of virtue, we follow the topics suggested by students at large: altruism, tenderness, indifference (to wealth), honesty, work, providence, and appreciation, as opposed to egoism, cruelty, cupidity, theft, laziness, improvidence and ingratitude.³ Some additional topics arise as secondary themes for such treatment as can be given them, owing to conditions in the particular field I am dealing with. Hence, I shall comment upon the qualities of ethical behavior in respect to age and infirmity, child-rearing, marriage, the so-called absolute moral qualities, regard for life, regard for property and honesty, sex relationship, truthfulness, gratitude, hospitality, courtesy, cooperation, affection, jealousy, cruelty, cupidity, self-control, love and hate, exo-tribal altruism and benevolence at large.

My notes are intended as contributory in a small measure to the material available on the practices of morality in a small and unadvanced group of Indians; the kind of study that would be welcomed by such students as Lévy-Bruhl.⁴

The very essence of evil conduct, the Algonkian of this region feels, is to maltreat one's fellow-men. Since the power to do this lies in such a high degree in the province of the shaman, the contrast between good and evil is brought out in high relief in the practices of shamanism. The conjuror can become the arch-criminal or the benefactor in his social sphere, according to the motives that govern him, to an extent that puts the less gifted individual in the shade. The concept of good and evil forces seems to line up, accordingly, with the phenomena of shamanism. Apart from the latter, we can only approach toward an understanding of ethics from observation of individual conduct, and by considering reasons associated with it as the individual behaves in his social world in relation to his comrades. In his normal behavior the Indian of these regions feels a keen responsibility for the practical welfare of his group. He thinks, I should venture to say, judging from his actions and his sentiments, in terms of general welfare quite unselfishly. But not so in the case of the conjuror, for here we learn, not only from rumor, but from the myths and tales, is where the gamut of human weaknesses and virtues finds a field of conflict. The shaman may be a benefactor, but he may also be a knave. So, since the opportunity to study actual cases of shaman personality has not as yet come my way, I shall have to

³ The somewhat generalized consensus of opinion current among authors: Dewey, Buecher, Hobhouse, Westermarck, Malinowski.

⁴ L. Lévy-Bruhl, *Ethics and Moral Science*, London, 1905; and H. Sidgwick, *London*, 1888.

limit the treatment of moral behavior of these bands to that limited field of approach to which I have been admitted—the observations of personal habits.

From these comments our attention naturally drifts to the question of ethics in general among these unorganized nomads. No ideas of retribution in the soul-realm are encountered; no recognition of reward or expectation of punishment at the hands of spiritual forces seems to be heard of among them. In short, personal behavior in their social contacts has nothing whatever to do with their religious life. Crime, in the sense in which we define it, is something that they do not themselves recognize. They speak of doing good, doing well, being nice, acting well, all in the same term *minotòtak*, *milòtotak*, and likewise of its counterpart *matcìtòtak*.⁵

Personal behavior among them, then, is a matter of custom, habit, evidently, the outgrowth of their innate feelings toward each other. These seem to be in general worthy of commendation even in the judgment of civilized beings. Indeed, the Naskapi could just as well say in the words of Samuel L. Clemens,

There is only one impulse which moves a person to do things. That sole impulse is the impulse to content his own spirit—and winning its approval.

Helvetius, the French philosopher of the 18th century, taught, also, that man acts in the direction of satisfying and contenting his own strongest feelings, emotions and desires, such being the basis of all our ethical teaching.

The Naskapi rule of free-will as a basis of moral conduct is hardly to be identified with the concept defined in the ethical philosophies of Europe. Nor, as I view it, is the Labrador belief in soul domination to be allied with the intuitionism of the scholiasts. While some common attributes occur in both cases, the plane of thought upon which the Indian system rests is one historically and economically alien to those of classical Europe.

If the ideal of moral development in human history leads, as Hobhouse thought,⁶ to an adjustment of mutually dependent personal rights of the individual with the highest welfare of the social groups, we may admit that here in the small Labrador groups the goal has been reached without the process. The Labradorean system, despite certain vague resemblances to Socratic teachings, will not square with systems so long studied and reduced to formal processes of thought.

⁵ Other qualities of virtue are expressed in the language of the area (Montagnais-Naskapi) by such terms as *milowéwin*, "gratitude," *witcawéwin*, "coöperation," *milokwéwin*, "kindness," *milawacowéwin*, "purity."

⁶ L. T. Hobhouse, *Morals in Evolution*, New York, 1906.

Utilitarian, the Naskapi usages seem indeed to be, and, so far as I can judge, they arise from deliberately rationalized thought on the matter of social conduct.⁷ The valuation of human conduct becomes a source of discussion among them in their leisure hours fully as often as it does among us. Few possible phases of the conduct of whites whom they have occasion to observe are neglected in the reviewing they indulge in. They accuse the Europeans, first of all, of insatiable greed; then, of competitive selfishness, of thoughtlessness of the future, and deliberate cheating in economic transactions. The success of the white man's culture, being attributed in the Naskapi mind to a combination of these traits, they too often try to achieve success equal to his by imitation. Their shrewdness makes them resort to tricks often turned successfully against the traders. The victim, in the one case the trader, complains of the "crooked Indian," as the Indian, when he is innocent of the wiles of trade, complains of the "crooked trader."

To assay impartially the moral feelings and usages of an uncivilized people is generally to court criticism. It may arise from the civilized readers' natural feelings urging them to reject any assertion pretending to show equality in morals between themselves and savages if natural moral disciplines are reported among the uncivilized. And criticism will arise from the feeling of suspicion that the investigator has observed uncivilized behavior and its motives from some angle of bias. The latter is inevitably true of any source in question; it can hardly be otherwise in human observation. The former, on the other hand, is an assumption, not a fact. I confess to this bias in giving it as my own impression that these natives, taken as a whole, are no more strangers to elevated feelings than we are.

The Montagnais and Naskapi, however, have never been accorded a very high character by the writers of the past. Haddon, in a recent work, alludes to them as the most degraded of all Algonquians.⁸

In the opinion of earlier writers, many of whom had intimate relations with the savages, one meets with conflicting estimates. These are supported by generalities of observation, seldom by specific data.⁹ Accordingly, we get the missionary's condemnation of the natives, often expressed with such

⁷ For exposition of another point of view in regard to the character of moral conduct, namely its origin in instinct, see A. L. Kroeber, *Morals of Uncivilized Peoples*, AA 12: 437-47. Also, in discussing ethics of primitive peoples, F. C. Sharp, *Ethics*, (New York, 1928) in a short chapter ascribes utilitarian ethical conscience to preliterate as well as civilized races.

⁸ A. C. Haddon, *The Races of Man*, New York, 1925, p. 140.

⁹ For example, A. P. Low, *Report on Explorations in the Labrador Peninsula*, 1892-5, Ottawa 1896, *passim*; George Cartwright, *Captain Cartwright and His Labrador Journal*, ed. by C. W. Townsend, Boston, 1911; L. M. Turner, *Ethnology of the Ungava District*, BAE-R 11, Washington, 1894.

amusing naïveté that without intending it in the slightest, the effect upon the sophisticated mind is to admire the direct moral reasoning of the savages at the expense of the recorder's. For instance, Le Caron:

Hence they do not generally care for instruction; they come and cling to us only from fancy or natural inclination, or for the welcome and attention given them by the care we take of their sick, or from interest to get something from us, and, lastly, because we are Frenchmen and they are allied with us against their enemies. We teach them the prayers, and they recite them without any discernment of the Faith, like so many songs; and even those whom we have long catechised, except a very small number, are not to be depended upon if they return for ever so short a time to the woods.

I know not whether their ancestors knew any divinity, but the fact is that their language, natural enough for anything else, is so sterile on this point that we can find no terms to express the Divinity nor any of our mysteries, not even the most common. This is one of our greatest difficulties.

One of the greatest obstacles to their conversion is that most of them have several wives, and that they change them when they like, not understanding that it is possible to submit to the indissolubility of marriage. "Just see," they tell us, "you have no sense. My wife does not agree with me and I cannot agree with her. She will be better suited with such a one, who does not get on with his wife. Why, then, do you wish us four to be unhappy the rest of our days?"

Another obstacle, which you may conjecture from what I have said, is the opinion they have that you must never contradict any one, and that every one must be left to his own way of thinking. They will believe all you please, or, at least, will not contradict you; and they will let you, too, believe what you will. It is a profound insensibility and indifference, especially in religious matters, for which they do not care. No one must come here in hopes of suffering martyrdom, if we take the word in its strict theological sense, for we are not in a country where savages put Christians to death on account of their religion. They leave every one in his own belief; they even like our ceremonies externally, and this barbarism makes war only for the interests of the nation. They kill people only in private quarrels, from intoxication, brutality, vengeance, a dream or extravagant vision; they are incapable of doing it in hatred of the Faith.

Every inclination of theirs is brutal; they are naturally gluttons, knowing no other beatitude in life than eating and drinking. This brutality is remarked even in their games and diversions, which are always preceded and followed by feasts. There are farewell feasts, complimentary feasts, war, peace, death, health, and marriage feasts. In their banquets they pass days and nights, especially when they make feasts which they call "eat all," for no one is permitted to leave till he has swallowed everything.¹⁰

¹⁰ *Memoirs of Father Joseph Le Caron, 1624. Quoted by J. D. G. Shea, First Establishment of the Faith in New France, New York, 1881, vol. I, pp. 220-222.*

An experienced officer of the Northwest Company writing in 1808, again adds to the picture.

Free from their infancy, however, from restraint, and forced, early, to think and act for themselves, they acquire much cunning and sagacity in whatever may concern their own manner of life, and if we can find among them none who can please the eye by their own cleanliness, yet, we meet with some who are endowed with sufficient natural sense to puzzle the savant.

And again the same official goes on by saying,

These people though naturally timid, are treacherous when provoked. Like most savages they are indolent, till want spurs them to action. They are great thieves but trusty when property is left in their charge, and they hold a liar in detestation. . . . But they are libidinous and accused of sodomy. . . . These are the coast Nascapées who have not only their wives' daughters but even their own daughters for wives.¹¹

The naïve declarations of Father Peter Laure (1720-30),¹² naturally applying European criteria, since he was one of the writers most concerned with native behavior, describe the Mistassini of the interior as being such sweet tempered and simple people that you can form no idea of their goodness [sic!], having no liking for fire water, and if the French, who are more eager to plunder them of their peltries than to help them save their souls, did not . . . force it on them, they would never take it.

He speaks of their admirable docility. Of the Montagnais he observes them as

kind, gentle and peaceable, who readily do what you ask, provided you keep your eye on them, credulous, never answering back, timid, obedient and poor.

Although confessing to great admiration myself for these amiable and simple people, I see in these sanctifications a most optimistic exaggeration.

My remarks on native *mores* of this region seem to lead to contradiction of the idea held by writers who insist that superior altruism is to be found only in European society. Even Westermarck¹³ is inclined to assume in general that altruism in marital relations can grow up only in the heart of the highly civilized European. With such an idea in mind, let us proceed to view the Labrador nomads in the circle of their family life.

While we are obliged to recognize the difficulty of grasping their deepest ideas of right and wrong, it seems possible, nevertheless, to draw some gen-

¹¹ James McKenzie in L. R. Masson, *Les Bourgeois de la Compagnie du Nord-Ouest*, Quebec, 1890, pp. 413, 414, 419

¹² Rev. T. S. Campbell, *Pioneer Priests of North America*, p. 229.

¹³ *History of Human Marriage*, pp. 360-61.

eral impressions of such matters from the observation of their conduct among themselves and in their relation with the whites. And besides, I have recorded in my notes some of their own opinions to offer.

From my point of vision, as personal as such an estimate is bound to be, Europeans in their social contacts show acquisitiveness as a dominant characteristic, consciously or unconsciously displayed. This peculiarity of mind and disposition has never impressed me in observing the demeanor of the Labrador savages, nor in past experience have they developed in the horizon of native behavior upon more intimate association with them in their home.

As for that goal of human endeavor,—the sensation of happiness—these savages seem, when they are well, to have achieved their aim for the most part. Despite the hardships they face, and the contemplation of others which they know will surely come, they relax, for the moment, when their varied appetites are stilled, to revel in social enjoyment; in conversation on topics of their world and in humor of the most playful sort.

Friendliness, kindness in its literal sense, referring to the action of an individual toward another of his own "kind," seems as Thoreau thought it: All the abuses which are the object of reform . . . are unconsciously amended in the intercourse of friends.¹⁴

The non-pecuniary interests of the savages at large are apparent when the conversation of a group of men sitting and standing about in the sunshine of a beautiful afternoon is listened to. It is in sharp contrast to the topic so much a favorite among a company of *habitants* under similar circumstances. The subject drifts from narrative of adventure somewhere in the great bush, to things going on in sight, or the weighing of the truth of statements of passing events reported in the air, and then back again to the first topic mentioned.

Ostracism for Misbehavior.—The treatment of individuals who have done minor injury to others and become obnoxious seems to be that of annoyed patience or temporary indifference. In every band there are met those whose status among their associates is that of the undesirable. The visitor, like myself, is warned against reposing trust in them. Their relatives are often ashamed of them. Being avoided, they forfeit the satisfaction of friendship; hence this becomes their punishment. As mild as all this appears to us, it is serious enough in these lonesome societies. And should resentment lead the ostracized to further deeds intensifying his unpopularity, he may develop into being an offender of greater magnitude—ultimately to become a social

¹⁴ H. D. Thoreau, *A Week on the Concord and Merrimac Rivers*, p. 283.

outcast. This is a more serious situation. If he becomes morose, it is worse for him, and he may take steps to get even with his associates; to take vengeance on society and finally be murdered. We learn in the tales how such men become transformed into cannibals, wi' 'tigo.

The following instance illustrates a phase of Indian behavior. It portrays the shyness, or, as some think, the cowardice of these hunting populations.

At the settlement of Kiskisink, one of the southern villages of the Lake St. John band, an individual named Kótcic had, some years ago, been accused of stealing an overcoat from an Irishman who was working in one of the lumber camps. An attempt was made to obtain recovery of the property the next summer, by an officer who went to the village of Kiskisink for this purpose. Kótcic was apprehended by the officer, and, in being taken from his house under arrest, he offered mild resistance, attempted to get away, and came to blows with the officer. The officer managed to get on top of Kótcic and was trying to put handcuffs on him when Kótcic called to his wife to bring an axe and hit the officer. The wife ran for the axe. The officer let go and jumped up. Kótcic escaped with canoe and camping equipment and fled down the Bastonnais river, afterwards hiding from everyone except a few of his close companions. At times he returned to the village to visit his family and renew his stock of provisions. Kótcic realized that an attempt would be made to take him again and so kept out of the way. He pitched his camp near the river so that he might see what passed up and down, at the same time keeping out of sight of passing parties. During his exile he lived largely upon game and fish.

It so happened that I reached this village the same summer, not knowing anything about the case. I went a number of times to his house, engaged on other matters, and noticed the peculiar manner of reticence on the part of his household. I did not know the cause at the time. Once, in the nature of a joke, someone suggested to me the excellent opportunities for fishing a little way down the Bastonnais, urging me to go down and fish near the hiding place of Kótcic, thinking that it would be a good joke for me to get fired at by Kótcic, who would take this means of scaring intruders away. Although I did not know that a joke lay behind the suggestion given me, I happened not to go, and as a result enjoyed for the rest of my stay there the reputation, among the Indians, of being a detective. I did not, however, suffer molestation from any one, although there were many of the Indians who avoided me without my knowing why at the time.

Kótcic was a man of the unpopular type; the kind accused among his people of trap-lifting and general unscrupulousness. He was not typical of the Montagnais, though of course he might be described as being so by

one who did not learn that the Montagnais disapproved of him as much as did the authorities.

Attitude toward Life and Hardship.—The general attitude of mind of the people toward life and nature's trials is one of resignation. The hardships of a strenuous life in the forest, with death in the wilds through starvation, or freezing or accident facing them before reaching advanced age, are accepted without complaint or bitterness. As their priests have remarked of them, many live sweet lives and have beautiful deaths.

My notes contain mention of some observations, while recollection serves up other instances showing their characteristic mind.

Old Napani ("Flour") of Lake St. John was next to the oldest man in the band, and was estimated by the factor to have been over one hundred years of age when last I saw him in the summer of 1925. Speaking of his age and his experiences when a young man so long ago, Napani said complacently, "I don't know how old I am, but I am so old that all my friends died years ago. I wish I had died then too, but I must wait until my end. I often feel afraid that Tcemontú ["Great Spirit"] has forgotten me." Napani was still living in 1927, wintering on his hunting grounds with his married sons and daughters, helping them in gaining a living by snaring hares in the vicinity of the camps, too lame and feeble to go far alone.

Another patriarch of the Escoumains band, Old Paul Ross, half Scotch, half Montagnais, was, when I once visited him, seated on a board, crippled with age, and had a stout cane beside him. "You have lived a long life, grandfather, and must have seen much that I would like to have seen," I said upon arriving.

"Yes, it is enough. I have lived a good life and killed many animals. The sticks of the forest have given me my living and now that my legs are weak, the forest has to give me a third leg. I only had two, now I have three." And he pointed to his staff.

There was also old Maurault of Lake St. John, well up in his eighties. During the last few years of his life he was almost blind from eye trouble caused by snow and exposure. He had to raise his eyelids with his fingers to see anything. Living with his son who was good to him, he and his wife slept on a pile of boughs, both too feeble to rise much above a sitting position. "I am helpless," he once said when I gave him a pinch of tobacco. "I have lived too long, but I shall not have to bear out much longer and burden my children."

Old Marie Louise, at Kiskisink, was, in 1925, regarded by the white people there as being much over ninety. Some thirty years a widow, she

had continued to operate, all by herself, her hunting and trapping grounds about three days' journey away by canoe or sled. Her relatives urged her to give up her solitary life in the wilderness and live in the settlement for company and support. But no; she declared that her life had begun in the bush, and had continued there; that her relatives and children had died there, and that there was the place for her to die when her soul left her. And so she did. One spring, returning to the settlement with her hand-sled loaded with her winter's catch, she broke through the ice and they found her where the accident had occurred.

Regard for Life.—The social and emotional reactions toward murder among the Montagnais-Naskapi would be a difficult and uncertain matter for me to discuss, in view of the fact that since the beginning of my contact with them, I have not heard of a case of deliberate manslaughter. The answer to a question concerning what would be done to the criminal is therefore based upon traditional sources. The leading men of the group, I was told, cause the pursuit, capture and execution of the murderer. That seems to be all. In recent times we have occasionally learned through hearsay of murder and cannibalism among the remote bands in the far North, in which case the murderer has been a wi' 'tigo, a human being partly transformed into a demon; but no one can be found who has witnessed the orgiastic event. Nor is infanticide known or reported from any quarter. Contact with Eskimo over the period of time in which the two sub-arctic races have shared their northern habitat seems not to have caused similar social habits to develop in regard to manslaughter, except possibly in the case of sporadic anthropophagy during famine and abandonment of the aged. The latter trait may now be considered.

Abandoning Aged.—Abandoning the aged is a relic of some past phase of life, in which the Montagnais-Naskapi show a closer resemblance to the Eskimo. Allusion to the practice is frequent in their mythology, however, and to the same degree as among the Wabanaki peoples. The contemporary Indians of this region nevertheless evince the very opposite of such a tendency. The aged and infirm are indeed most tenderly regarded, and they are by no means so few in number as to be negligible in the personnel of the bands. Whether it is true that we should admit a radical change of behavior in this respect to have occurred in their recent history, or whether, like the endo-cannibalism that we hear of through tradition, these harsh practices were emphasized in folk-lore through their rarity, it is difficult to conclude. To assume that these peoples lived under greater deprivation,

and that famine confronted them more regularly then than now, might offer an answer to the question. But can this be upheld in view of the decrease of the game, especially the caribou, in the past century, and the tightening of the bonds of hunger which we hear of so widely throughout their range?

The horrid practice still obtains among the Nasquapees of killing their parents and relatives when old age leaves them incapable of exertion. "I must," says Mr. McLean, "do them the justice to say, that the parent himself expresses a wish to depart, otherwise the unnatural deed would probably never be committed; for they in general treat the old people with much care and tenderness."¹⁵

McLean further notes that the son or nearest relative was executioner,—the method employed being strangulation.

Davies says on his own account that the aged are killed, when prevented by age and infirmities from following the tribe—it is sometimes done at the request of the old people themselves, and is accomplished by strangulation, the nearest relatives being usually chosen for that purpose.¹⁶

In addition, one reads in McKenzie:

The Montagner shows an unnatural indifference for the loss of those who ought to be most dear to them. The parent loses his child, the child loses his parent, without regret or a tear, except when rum is so plentiful within as to stream from their eyes.¹⁷

Attitude Toward Women and Children.—As is true in the case of observations by earlier authorities upon the natural peculiarities of savages, we have the categorical statement concerning the Algonkian of the far north by no less an *habitué* of these regions than McLean.

Considering the manner in which their women are treated, it can scarcely be supposed that their courtships are much influenced by sentiments of love, indeed the tender passion seems unknown to the savage breast.¹⁸

While a less eloquent writer might feel hesitancy in saying as much concerning his own people, it might even be conceived as a possibility in any group of Europeans. As bearing upon the case of individuals, it is quite another thing to make a general statement. My own observations are con-

¹⁵ Hind, Vol. II, p. 99. Quoted from McLean (footnote 18 below) Vol. II, pp. 122-3.

¹⁶ W. H. A. Davies, Notes on Ungava Bay and its Vicinity. Trans. of the Lit. and Hist. Soc. Quebec. Vol. IV, pt. II, 1854, p. 132.

¹⁷ James McKenzie, *op. cit.*, p. 425.

¹⁸ J. A. McLean, Twenty-Five Years Service in the Hudson Bay Territories, London 1849, Vol. II, p. 127.

cerned with individuals. I have seen all the evidences of coquetry and courtship-play manifested in several individuals of the Michikamau band; the sitting on laps, the giggling and caressing between parties, that the universal parent feels to be the innocent by-plays of affection when discovered in his son or daughter. The difference between their being evidences of sentiment and affection, or carnality (as I suppose we might be told) are evidently to be assigned to the personality of the commentator himself, not to acts involved. I am unable to observe any difference between motive or emotional quality in these acts in Indian or European cases. Among members of the Michikamau band I have seen the young wife sitting on her husband's lap in the presence of others in the summer house. And also the kiss. I have also in mind frequent pictures of solicitous regard for each other by husband and wife. We would call it affection. The young men with whom I have traveled would tease each other about sweethearts as other youths do, with similar manifestations of false modesty and shyness. Young unmarried couples meet in the dark and walk about together as they do everywhere the world over.

Married men, too, are not exempt from this statement, and I have been a witness of considerable nocturnal visiting among both married and single men and women during the summer when the Indians are assembled in numbers at the trading posts.

There is, however, nothing in the treatment of women by men here that could be allied to chivalry or even courtesy. Except in the case of alien women, who are given the polite treatment that their racial and social status exacts from the mild and lowly, women of the native household are dealt with the same as other men would be. Aside from instances in which affection is displayed, men and women mingle without apparent concern for one another. Men do not make place for women when they enter a gathering, nor do they wait upon them with minor services. They do not salute them nor apologize for social accidents. They do not force labor upon them nor leave the hard tasks for their hands, as we have been told. The mutual sex attitude is evidently a practical one; the strength or ability of a woman being a stronger factor than sex in determining what consideration she may receive.

The missionary Laure (1720)¹⁹ noted that in his day the Montagnais at Bon Desir, about 24 miles east of Tadousac, were unlike other Indians because the men reserved the performance of the hardest labor for themselves and helped the women, who were as "queens" compared with those of other

¹⁹ Rev. S. J. Campbell, *Pioneer Priests of North America*, 1911, p. 239.

tribes. They consulted the women, he says, in all family plans, enterprises, journeys and places of winter quarters.

Among the northern Algonkian, the custom, preparatory to marriage, of the young men nightly visiting the camps of girls, for the purpose of prenuptial cohabitation, is possibly responsible for the continuation of the habit—errancy among married men—formed so young. How general libertinism may be among the remote and uncivilized northern bands I have no means of knowing, except for the written statement of Mr. Richard White concerning the Barren Ground band of Naskapi. He declares that extra-marital sexual relations are the exception there. The contrast to this, however, is great among the catholicized and mixed-blood bands in the southern portion of the peninsula. The apparent factors, if the difference in habits asserted is a true one, lies in the association of the Indians with the whites, in this case the French. From Lake St. John eastward down to the St. Lawrence and to the Gulf the sexual associations are surely free among the majority of the unmarried and many of the married.²⁰

At Seven Islands I found, for instance, that while living with one of the families in a wooden house, there were several male visitors nightly to the three women who occupied mattresses on the floor of a room adjoining mine, partitioned off by a curtain. Everything was carried on nicely and quietly, and it was not mercenary. In the same summer settlement where members of three rather large bands were congregated for trade, were a number of girls, evidently a dozen, who were openly approachable by both Indian men and white men. Among the number was the daughter of the chief of the newly combined bands, although it should be added that her taste led her to be more particular than most of the others. On the other hand there were said to be a few of the girls who habitually refused advances. In the latter case, however, it is understood that the hesitant ones succumb to a siege upon the heart. From the standpoint of the females themselves, I was led to conclude that the dominant factor in their sexual conduct before marriage is that of personal taste and the preference for the particular man, with the idea of marriage in the background.

Some of the men of Lake St. John who had been to the camps of the less civilized Mistassini in the bush told me that the girls there were usually not easily approachable sexually, except when they could be found alone at a distance from the camp. This about explains the situation; the more isolated life in the hunting grounds leaves the women open to approach, but there they do not expose themselves by leaving the protection of their

²⁰ Low, *op. cit.* p. 47L. "Continence is not usual." Comment on this platitude unnecessary!

elders. At the posts, and when dwelling near the whites, the whole situation changes and their conduct is more lax. McKenzie states that

Their ideas of chastity are so confined as scarcely to exist, and their conscience in their respect is as elastic as silk stockings.²¹

I believe this represents the historical development here of sexual behavior, supporting the claim of the older Indians that in earlier days it was a disgrace for girls to associate with strange men, while nowadays, and in the modern social environment the trend is toward laxity.

With the men, feelings do not seem generally to be so definite. Naturally the native population falls into two groups, as I have pointed out; one comprising those who pass all but several weeks of the year in the forest; the other, those who are much in contact with the lumber-jacks, traders and itinerant whites. The latter are almost universally profligate; the former, from what little we can experience in their solitary life are shy and inhibited. My own brief sojourns in the tent life of the more remote hunters bears this out. To be sleeping within the small quarters of the tent, a family of nine, among whom are several sexually mature girls, is about as innocent a life as we would expect to find in a "respectable" American Methodist family. The trading camps at the posts during the summer rendezvous are brothels by comparison.

For the widow, especially one left with children, a particular concern is manifested. Necessary supplies, clothing and food are given her by others, and it is not long before some of her children, if there are many, are temporarily housed and fed by her relatives. It should be noted in this connection that the widow is not dependent for an estate upon her husband's property, because every woman has claim rights upon her father's hunting territory which her sons may take up if they are large enough, or which her husband may assume. In the latter case, the family being matrilocal, the widow becomes the charge of her brothers, who are simultaneously the uncles of the orphaned children and responsible for their support. If the hunting territory, owned by the widow, and left unoperated through the decease of the husband, is a good territory, this widow will not remain unmarried for more than a year. On account of her estate she is a desirable prospect, no matter how old she may be or how many children she may have; not only to men of her own age, but to young men whose hunting territories are not so good, who may indeed have none, or who wish to extend operations. No altruistic motive necessarily underlies such unions. The marriage of elderly women to comparatively young men is so common among the northern

²¹ James McKenzie, *op. cit.*, pp. 424-425.

Indians that it arouses constant comment among the Europeans who have contact with them and whose fancy does not run in that direction. I know of some cases of men happily wedded to women old enough to be their mothers—the men incidentally having acquired good hunting districts.²²

In the treatment of children there is no uncertainty of determination in the motive, as there might be in the case of treatment of women. These bands are known, both among those observers who like them and those who do not, for their humane and affectionate bearing toward children. They really love their children and show it. While it is true that their children are less noisy and boisterous, thus being less annoying than those of Europeans, it is occasionally to be observed that they are fretful and uproarious. When, however, European children become as quiet as the northern Indian children normally are, they are considered to be ill. The Naskapi is an exceedingly affectionate father. His children are never an annoyance to him about the camp, although it should be recalled that at such times he is enjoying a period of relaxation from the arduous exactions of the hunt. He will not tolerate the idea of punishing children for misdemeanors, for such are not thought of as being possible in child behavior. There being no rules of conduct for children to violate, the little ones do not suffer from being corrected or nagged. There is nothing in the domestic sphere for them to break or misplace; no rule of etiquette, deportment, or dress for them to observe; no social discipline to be drilled. Children learn by imitation of their parents the few essential and useful social restrictions, and for the rest grow up as natural beings until arriving at an age to give expression to themselves.

The children are not given to petty mischief to that degree which we observe among white children. But why this is so is not easy to explain. Nor do I consider my point of view of observation of this matter to be at all a prejudiced one, for I have in mind much that is tender, considerate and patient in the parent-child relationship of whites, even if the impression is somewhat clouded by memory of scenes of petulant irritability that so often claim attention in the homes of French-Canadians of the same country and in those of urban Christendom. The Montagnais-Naskapi are even more patient and just as affectionate with their children as anyone

²² Also Low, *op. cit.*, p. 47L. "Widows are in great demand in marriage and often a young man is married to a woman old enough to be his mother. As a widow inherits her dead husband's hunting grounds, a marriage with her provides the second husband with hunting grounds as well as a wife and in consequence widows are taken by young men without lands." Charlie Melowesheesh, late chief among the Mistossini, was a case in point, he about fifty, his wife over seventy.

else could think of being; the chief difference that I can think of lying in the fewer number of cases of irritation on the part of children among the savages. I can recall no instances of corporal punishment, in fact, few circumstances in the tent-life of the savages where need for it would arise. Contrary to the observations of some travelers who have seen them at home, I have noted the kissing and caressing of children by parents in prolonged outbursts of affection. Demonstrativeness is not limited to the mothers. "How can anyone harm children! Think of it; some people torment children, the poor little things," remarked a woman at Lake St. John who expressed her amazement at the treatment she had seen the Canadians give their offspring.

An occasion in which parental concern might sometimes seem lax would be, for instance, that in which one observed a child scarcely two years of age toddling around in a tent in full view of its mother, with an enormous and horribly sharp butcher knife; again, that in which a small child playing with one of the family dogs receives a painful nip on the lip, causing no other action on the part of the mother than to wipe the bite with a piece of soiled rag picked from the rubbish lying about. These and other reactions noted which would seem to reflect unfavorably on the quality of feelings of parents toward their children must be measured from the standpoint of the conditions and habits of the bush-life, which has its many peculiar asperities unknown to the lives of others.

Their parents treat them as companions or as pets, according to their ages. So impatient of chastisement of children are the Indians, that I knew of one man who could not work for a certain white man because he said he had seen the latter beat his son. To the Indian father no cause could justify such barbaric brutality. Another asks how a people can be respected for any humane qualities when they will strike their children. The father and son antagonism to which Malinowski refers in the Trobriands is hardly possible in the family contacts of the Labradorean peoples. Here the young man grows up to regard his father as his comrade and treats him tenderly when he is aged.²³

I have known one to refrain from drinking alcohol when his father was about, because once, when drunk, he had laid rough hands on his father and feared that he might do so again in a similar condition. One should not overlook the fact that the paternal uncle is highly respected by the boy and

²³ Also Low, *op. cit.*, p. 47L. "Children are never beaten. The respect shown by children to parents is great, and the will of the aged father is law even with middle-aged sons who will not enter into any serious undertaking without first consulting the head of the family." Turner, *op. cit.*, p. 269, offers similar testimony concerning parent-child relationships.

young man, for the uncle often takes the father's place as his advisor and hunting associate. The young apprentice in the art of hunting is often placed in charge of his uncle, out of an idea that the latter can teach him more since he would be less indulgent than the youth's father.

The status of the orphan who has been adopted in another family as a stepson or daughter offers another illustration of what appears, upon the surface, to be a magnanimity in Montagnais-Naskapi life. Yet the fact should not be ignored that stepchildren are working-aides in the labor of the family group, and are substitutes for the dreadful losses through child mortality. Stepchildren are invariably treated as affectionately as true offspring. In observing family life one is often surprised to learn that the former are not the actual brothers and sisters of others, but are often their cousins, as the remarks of a few paragraphs preceding have indicated.

Moral ideals of people, it would seem, are revealed in the measures they employ to insure their achievement. Applying the test in the case of the Labrador Indians, we may conclude that a certain regard for female chastity is part of their cultural life, since we learn of knowledge of several practices among the women as a protection against rape. There is oral evidence to show that women have bound thongs of leather loosely around their thighs down to the knees, allowing room enough for walking, as an impediment to felonious assault—the so-called virginity belt. And we hear of another device commonly known among the girls, knowledge of which would be useful as a protection against ravishment among their European sisters who seem to have no comparable teaching with which to meet danger when it arises. The interpretation given to these resources in their bearing upon savage moral attitudes may be, however, an over-valuation, for general knowledge of chastity devices among the females may reflect unfavorably upon the moral temperament of the men. The following narrative serves as an illustration.

In the upper Montagnais country, a certain hunter who had several unmarried daughters lived in a camp on a certain lake. The lake was in the line of travel followed by lumberjacks going back and forth between Lake St. John and the Chibougamoo country. The camp was located a few hundred feet from the lake shore to be out of sight from the scrutiny of passing parties of whites. One day as the girls were occupied with some domestic duties on the sandy beach of the lake, there came in sight around a point of land a canoe containing several Canadian shantymen bound with their earnings for the settlements after winter's social isolation in the "bush." To men of this type and under these circumstances, all females mean but

one thing. Sight of the two Montagnais girls aroused their passions and with a yell they bore down upon the pair, paddling so vigorously that the girls saw escape or concealment impossible. Nor would their father, had he been near at hand, have been able to protect them by force. For Indians in the north to offer resistance to white men, especially when outnumbered, is unheard of. Apparently there was nothing left for the girls to do but submit. Yet one resource was left to them in the teachings of their kind. In full view of their excited pursuers they stooped and threw handfuls of sand into their privates. Upon seeing the act the baffled Canadians howled in rage, turned the head of the canoe back into its course and passed on cursing the "dirty" savages!

An exception to the habit of fair treatment of relatives ascribed to the Naskapi is found in the instance of male slavery as reported in several instances among the Barren Ground band by Richard White. A recent case observed by him is that of a young man living with his brother in the capacity of a menial, the butt of "ridicule in all he says or does," loaded with woman's labors by the other men as well. The native name for the individual of this social status is *napeckweó*, "man-woman." What native institution lies beneath this course of behavior toward a kinsman remains to be ascertained, as well as the question of his being a bastard or a hermaphrodite.

Honesty.—While estimations of most moral attributes among the northern tribes may depend in a large measure upon the personality of the observer himself, the same can hardly be said of the traits of honesty and dishonesty. In regard to these qualities observation is more objective.

Practically no contradictory statements are met in respect to the positive regard; apparently an ingrained respect for the property of others that characterizes the Montagnais-Naskapi.²⁴ The absence of theft in native relationships is generally commented upon as a characteristic outlined in sharp contrast to the propensities of the Canadians. In particular, the institution of the "cache" or storage scaffold is stressed as one that beyond any doubt tests the question of regard for the property of others.

One exception to the general testimony of travelers and traders in the northeast, ascribing extreme honesty to the natives, is a piece of "soft soap" given us by Hind.²⁵ In a burst of contradictory emotion, of which he is not

²⁴ Cartwright (*op. cit.*, p. 296) stated (1783), concerning one of the Indians that he traded with, that "he absolutely refused to part with a bundle of whalebone which he had brought to pay a debt with, notwithstanding I assured him that the person to whom he owed it was not in this country, nor would ever return to it again." At times, however, the Indians and Eskimo took advantage of him in pilfering. This was before the period of missionary activity.

²⁵ Hind, *op. cit.*, I, p. 338.

often guilty in his narratives, he imputes to the Naskapi, in one breath, the practice of human sacrifice, accusing them of dishonesty, untruthfulness and a disbelief in future life, without giving further evidence for his estimations. This author is guilty of contradicting himself, for we encounter statements of his own, referring to the scrupulous regard held by the Naskapi for the "caches" or stores of supplies laid up by the Indians, on scaffolds in exposed situations on land and along water routes.

The inviolability of the "cache" is an outstanding fact in the narratives of the north. In the wanderings of the families the necessity constantly arises for the storage of food and domestic equipment at stations where it will be safe from the depredations of animals,—wolves, bears and wolverines,—and from the ravages of weather. But never a thought is given to making these storage vaults safe from the hands of man. From the viewpoint of safety, they are, indeed, generally located conspicuously. Passing companies of hunting or migrating families of Indians will view them, since for them to be seen is equivalent to guarding or protection. Never, in the annals of the country, have the Indians been known to open these stores, when belonging to others; to remove their contents, except in cases of accident or imminent famine. It is only under such conditions that the deed is permitted in the unwritten code of the north. And upon those occasions the party obliged to resort to this move takes only what is necessary for immediate relief and leaves a mark in the form of a syllabic signature or a mark of its identity to inform the owners of the "cache." The taking of food or property in this case is considered as a loan, and instances are on record, in which, at a later time, often at a trading post a great distance away, restitution has been made to the owner, representing many times over the worth of the appropriated goods. When, indeed, "caches" have been looted, the first natives to discover the act usually look about for traces of carnivorous animals or white men.

Narratives current among the hunters relate how at one time or another famine has developed the necessity of taking a small amount of food from someone's hoard, and how a greater amount has been returned at a later time; of hunters taking some iron fish-hooks and the next year giving the absent owner a beaver skin, and so on. But I have also heard it claimed by some that no strait of necessity would arise to justify opening another's "cache." In short, unguarded property where ownership is manifest is evidently absolutely safe in the forest.

Another observation should be added to the above evidence of honesty of the Indians among themselves; namely, that brigandage here is quite unthinkable, even as a supposition. Instances of violence in the forests,

prompted by motives of robbery, are not known except where whites are concerned.

Personally, I can testify to never having had a single object lifted from my property or equipment, though many times I have exposed small things to test this circumstance. Even among the Montagnais of Lake St. John, whose reputation for honesty is low among some of the Canadian habitants, I have had returned to me articles that I have lost on the road or mislaid in some of the numerous households visited during the course of a day's investigation. My wife has frequently left open bags of candy or cookies unguarded in our sleigh for hours at a time in camps where a dozen or more children were clambering about. The patient and always hungry youngsters never once molested these treasures, but waited until my wife returned to distribute some of the tempting morsels in response to their eager looks and hands.

It may be said of young and old that if goods or personal belongings are left in view they are absolutely safe from disturbance as long as there is something about to indicate that they have an owner. For example, the father watches the behavior of his child when the property of others attracts his attention. "That is not ours," he said to the child who had taken hold of something belonging to someone else.

"I am going away for a little while; now do what you like so long as you make yourself happy." So exclaimed the host as he left me the guest in his family. And again: "Now help yourself to whatever you would like to put in your mouth." I was told by the hunter whose wife had already prepared a meal for the family when I entered.

There arises among these bands another moral issue upon which the social sense of right and wrong is fairly sensitive. The fur-bearing animals that are caught in traps set and tended by the individual are considered his own property, both the fur and flesh, in a very strict sense. Accordingly, for one trapper to take the game from another's traps that he may chance to discover is a serious misdeed. For this, however, there is no stated punishment. The victim of such theft usually takes his own means of attempting to identify the thief, and when his mind is made up he is apt to talk freely about the robbery. The discovery soon reaches the ears of the offender and the consequences thenceforth remain a matter of individual concern. There may be only suppressed ill-feeling or perhaps threats by the offended party. This is generally sufficient to check further poaching, as I have had opportunity to learn in several instances where I knew both parties. There is, nevertheless, a general belief that "lifting traps," as this act is often called, will react on one's own hunting luck. And since luck is held in such

high esteem, we may conclude, if we try to think as these natives do, that few would care to take chances by jeopardizing good prospects for themselves.

It should be noted, however, that taking an animal caught in another's trap does not mean removing the dead animal and skinning it. For this is occasionally done if the finder, using his judgment, thinks that the owner may not appear on the scene before some carnivorous animal chances by and devours the captured creature. In such a case the finder removes and skins the trapped animal and carries the pelt to the rightful owner when it is convenient for him to do so. I have reference in my notes to individuals acting in this honorable fashion.

As desirable as statistics of theft would be for these populations in the various band subdivisions, I have only one group to report on, namely the Ste. Marguerite Band of Montagnais-Naskapi, whose summer trading rendezvous is at Seven Island post. Here my notes mention in the total of ten heads of families there are two who are commonly accused of being unscrupulous as concerns the traps of others. The offenders are frequently mentioned and pointed out without reserve. I gather that this is a form of punishment in the eyes of society.

Veracity.—We may understand the basis of regard for Montagnais-Naskapi veracity when we learn from the teachings of native religious reasoning that for one to lie is to cause in turn his "soul-spirit" to lie to him in giving him the dream advices and other premonitions regarding the hunt and hunting land that he so thoroughly depends upon for his own life and that of his family. Here we have the direct statement of an old religious teacher from Mistassini. These people seem to find proof of this belief in the coincidence that the unsuccessful hunter is also the poacher on others' hunting grounds, the "trap-lifter," and one whose statements are not to be believed—a liar—thoroughly dishonest in deed and thought.

With these Indians truth-telling and falsification are arts of utility to be used as occasion dictates for the advantage of speaker or hearer. They are not selfish in deliberately misstating facts or knowledge except when the temptation to brag is involved. Facts concerning other people are apt to be distorted in repeated telling. When concerned with friends the facts can be manipulated to their advantage; concerned with enemies they are viciously mendacious. They are generally known to weigh facts before giving them; to consider possible harm or good involved in the result; and to shape them to the end most advantageous.²⁶

²⁶ Low puts it in another way (*op. cit.*, p. 47). "As a rule the Indians have not a strict regard for the truth and speak it only when convenient."

I have found, for instance, that their truthfulness may be implicitly relied upon when information is sought concerning matters that may be considered vitally important for the traveler, the knowledge seeker, in fact, in any line having an impersonal bearing. Information regarding the country, its natural characteristics, animal and plant life, the life and habits of other peoples, their own movements, is all given thoughtfully and as accurately as knowledge allows. This matter I have many times put to test. By way of illustration, I obtained at different times in several bands, from different individuals, the data desired regarding the hunting territorial boundaries of certain men. The information obtained has been found accurate and true in every instance. I have never known a Montagnais or Naskapi to tell a deliberate falsehood when such an act would lead to injury in the woods, or to the recording of false information regarding the life of the natives. Yet I never felt any reliance whatever in their gossip or in reports of what this or that person had said about another. Here lies the basis of truthfulness. It is natural among friends, essential for welfare in the struggle with nature, but useless in cases where someone is put to disadvantage. Hence, in commercial dealings with whites the Indians are generally regarded as deliberate liars, though for my own part I must state that I have never suffered from what the whites who have business dealings with them complain of. Perhaps the motto that to them all is fair in intrigue and trade would cover my own experience, devoid of commercial connections.

In recording information, it is usual for the men, when asked about something of which they are not sure, to postpone answering for a day until they have had opportunity to think the matter over or to see someone else for corroboration. Then it is not unusual for the informant to bring his own informant with him to clarify and prove the reply.

Arrogance.—That the bearing of the Montagnais-Naskapi is devoid of the arrogance and self-assertiveness that is occasionally met in American tribes²⁷ has frequently impressed observers of these people. I can conceive that the economic relationship of a people to the natural world in which they roam would tend to determine their external bearing. Those who pass their existence, as do these northern tribes, in profound economic subjection to nature seem to exhibit a meekness and submissiveness of manner in contrast to others more arrogant and warlike, who have through economic progress achieved a greater mastery over nature. I would even interpret from such instances as we have here a similar reaction in human bearing toward nature as has been observed in the reactions of one social unit to-

²⁷ The Iroquois and some of the Plains tribes have earned some reputation for these qualities; as a source of comparison for my estimate.

ward another, the bearing assumed by the powerful and dominant toward the weak and subjugated. In short, neither wealth, government nor warfare exist in their life; other incentives are lacking.

Solitude.—Among the qualities of these people is love of quietude. They carry themselves with a distinct air of tranquility. The solitude of the forest seems to fit their natures, while unhappiness is their lot when for any length of time they are thrown into a gregarious environment. I found a Montagnais hunter, whose trading ventures required him to stay at the settlement of Lake St. John for over two weeks, pacing the shore of the lake one moonlight night, lamenting the necessity of staying so long where there were so many people and so much *tapage*. When I asked him what he was thinking about while pacing back and forth in the night, he replied, "The forest, where my hunting camp is. I cannot sleep here, there are so many people about!" His repose was disturbed at being in the midst of a mixed throng of some 300 of his own people and perhaps 100 French-Canadians that comprised the summer population of the post. I have previously commented on this characteristic of the northern hunters; and there are few traders or travelers or educators having dealings with them who do not emphasize the hopelessness of any effort to wean them from the solitude and liberty of the forest for a life of drudgery as cultivators of the soil, even though the latter would solve the vital problem of the food supply that ever stares them in the face.

The native aversion to loud talking and boisterousness is shown in the displeasure the men evince when youths or boys who have associated with or observed the group behavior of Canadians attempt to imitate them. Some men of the Ste. Marguerite Band, watching some of their boys playing kick-ball like the *habitant* youths, heard them cursing in their limited French vocabulary. "How do you like that?" one of them asked me. Not having noticed the profanity (I am so used to hearing it), I thought he referred to their playing the game. "Pretty well," I answered. The men smiled and the speaker added, "Not we, however!" They made no effort to check the boys, other than by looking on for awhile with evident annoyance.

Altruism.—To the observer who sees the people in their own haunts, comes the impression of how naturally and beautifully social and economic coöperation work along in simple hunting cultures among peoples of sparse population. In the minds of several sociologists, ethics and population are interacting considerations.²⁸ Here the welfare problem is everyone's con-

²⁸ R. Pearl, *Biology and Population Growth*, New York, 1925; also A. M. Carr-Saunders, *Population*, London, 1925.

cern. There is no apathy among the normal; no disregard of others' ills or wants. To make such a positive statement in the negative might strike one as being an exaggeration prompted by a mental attitude of cynicism toward modern life in which coöperation is so necessary but not spiritually spontaneous nor given without compensation. I cannot disclaim the accusation, but I can affirm my estimate of the generosity and wholeheartedness of economic coöperation which I have continuously observed in the time that I have known the less civilized among these tribes. It is among themselves, however, that such customs exist as that of giving away food,²⁹ clothing or property that can be spared; of lending equipment without compensation; of giving time in labor to common enterprise or in behalf of friends or those who lay claim to their hospitality. In dealing with Europeans, matters are different. The white man as an individual may be admitted into the native free-masonry provided that he possesses a disposition acceptable to native tastes. But as a class he represents another world in which the natives have come to realize the hard fact that you get nothing for nothing; that competition is the spirit of trade; that the early bird gets the worm and keeps it. Native sentiment toward the social economic system of Europeans is expressed in terms of resentment against the motives of those having plenty of the world's goods who do not respond freely and voluntarily to the need of victims of poverty and distress. McKenzie says that "indolence, ingratitude, malice, stubbornness, and a propensity to drinking, stealing, lying and trickery" have resulted from their intercourse with the whites.³⁰

McLean (*op. cit.* page 128) wrote in a similar vein,

In their intercourse with us the Nascopies evince a very different disposition from the other branches of the Cree family, being selfish and inhospitable in the extreme; exacting rigid payment for the smallest portion of food. Yet I do not know that we have any right to blame a practice in them, which they have undoubtedly learned from us. What do they obtain from us without payment? Nothing:—not a shot of powder,—not a ball,—not a flint. But whatever may be said of their conduct towards the whites, no people can exercise the laws of hospitality with greater generosity, or show less selfishness, towards each other, than the Nascopies. The only part of an animal the huntsman retains for himself is the head; every other part is given up for the common benefit. Fish, flesh, and fowl are distributed in the same liberal and impartial manner; and he who contributes seems as contented with his share, however small it may be, as if he had had no share in procuring it. In

²⁹ W. H. A. Davies, Notes on Ungava, Trans. of the Lit. and Hist. Soc'y. Quebec, 1854, p. 129.

³⁰ James McKenzie, in Masson, *op. cit.*, p. 421.

fact, a community of goods seems almost established among them; the few articles they purchase from us shift from hand to hand, and seldom remain more than two or three days in the hands of the original purchaser.

Revenge.—There is still another point under this heading that I approach with some hesitation. It is the motive of revenge among the Indians of this region. In contrast to the usual opinions expressed by those who deal universally with Indian behavior, I have not a single case from recent times to record, throughout the territory considered, of an individual taking premeditated vengeance upon one who has done him a wrong, whether white or Indian. The Indians at all the trading posts of the territory are aware that they are being economically exploited by the traders, but never a case of vengeance arises.³¹ In the instance of physical maltreatment the offender, whether he have had reason on his side or not, is never pursued nor is retaliation offered. The Labradorean tribes are thoroughly submissive. As a woman of the Escoumains band declared some years ago, when I was talking with her on this peculiarity of her people, "The poor Montagnais are like sheep. They submit to being led around by the nose by anyone who dares do it." When aggrieved by the overbearing demands or conduct of others, they sulk or retire from the unpleasant influence, fleeing into the protection of the all-enveloping forest if the occasion be serious enough.

Temperance.—The Indians of the north are no exception to the rule that mankind is prone to seek self-forgetfulness in resorting to stimulants and narcotics. The use of alcohol among them is a most demoralizing practice. Crimes of violence are almost unknown among them except when caused by drunkenness. Among some hundreds of individuals I know there I do not know of one man anywhere in these bands who would refuse liquor, although I do know those who can drink in moderation. Abstinence is not considered in any way as associated with good behavior, except among those who have been taught its virtue and who fall as speedily as the ignorant. Accordingly, I shall not attempt an ethical judgment upon native intemperance. The point should be stressed again: that the stimulation felt after consuming alcohol is believed to be the effect of a spiritual process. The quickened heart action and the abnormal mental condition are interpreted by the idea that the "soul-spirit" or "heart" is being feasted as its nature requires. Consequently intoxicant drinking becomes a sacrament whose effect is conceived to be a spiritual benefit. Likewise tobacco smoking,

³¹ I have the testimony of Simon Rafael, a hunter in the Lake St. John band, as an illustration of this point.

fungus smoking or inhalation of any of the narcotic herbs is a form of devotion in doing homage to the spiritual element of man. The drinking of grease, particularly bear's grease, falls under a similar classification. And rising to the climax of this series of stimulative devotional acts comes the simple act of eating. Hence the discussion of ethical motives as concerned with these natural acts leads off into considering the individual's duties toward himself, bodily and spiritually, but not his duties toward others except where violence results from overindulgence. The latter is a development only in the modern life of these Indians; one brought about by European influence.

I have occasionally observed a rather peculiar psychological reaction among the Montagnais in regard to action of the hands. When drunk the young man staggers and claps his hands occasionally. "I'm a man! It's pleasant to have many friends! I'm drunk, very drunk!" he reiterates. A drunken outburst is generally short-lived. The victim of drink soon falls unconscious by the path, becoming the object of altruistic attention by others rather than the agent in social activity himself.

"The people have a hard time all winter. Not much to eat. They even starve to death some times. So when they come out they must have a good time and forget their troubles." Thus the chief of the Lake St. John Indians condoned the weaknesses of his people under the temptation of strong drink.

Coöperation and Hospitality.—Coöperation is a principle so natural to these Indians that their coming into contact with civilized practices, instead of teaching them social cooperative ideals, tends to destroy their own. I have, for instance, often heard them express surprise at the indifference of the whites towards less fortunate members of their own race and even their own families. They do not conceive any virtue to reside in competition until after they have become thoroughly infused with greed for personal property. And that is a rare case with the hunters. It is not, however, communism in the socialistic sense of the term that makes them see the turpitude of hoarding in a cultural surrounding where success comes one day bringing plenty, even excess of gain, and disaster and famine the next. An eternal complaint is on the lips of the Indians against the cruelty of mind of the whites in general, and especially of the traders who have more property on their hands than they can use, while about them are other human beings living in want and misery, obliged to toil and labor for Croesus in order to secure a tiny share of the enormous stores. This is the native viewpoint; one which we can conceive lies behind occasional attempts to frustrate the traders' practice of sabotage by petty larceny.

They cannot reconcile human sympathy with any disposition to hoard. It is indeed an impressive spectacle for an observer to behold the hunters coming from the remote regions, lords of the forest, independent and happy when the game has been abundant, existing during their sojourn at the trading posts and missions like parasites, the prey of disease and exposure. These conditions, universal throughout the length and breadth of the North, form the topic of talk of everyone, including the traders themselves.

In their proper domain, the hunters' families scattered through the hunting territories observe such economic obligations as we imagine are necessary for survival among primitive hunting groups. A number of cases of interchange of privilege in regard to hunting areas have been recorded from various bands.³²

These privileges are granted during times of stress when the game supply of a region has been so reduced through forest fires or animal mortality that its possessors are faced with famine. Family hospitality is then extended as long as the conditions remain bad for the sufferers. The debt of asylum may be paid off by the beneficiaries at some later time. Occasionally excursions are made from one hunting territory to that of their neighbors to ascertain the state of affairs, especially if a suspicion of existing sickness has arisen among them. Such premonitions of trouble among neighboring families are apt to be sensed through conjuring and divination, we are told. The welfare program is evidently an active one. I have in mind anecdotes concerned with this or that action taken when it had been learned that an accident had occurred in some family in the remote territories. Relief parties are formed at once to go to the scene with food and help. The factors at the posts frequently are called upon to advance supplies and hire porters to convey them to the sufferers. To the credit of the former it should be added that in some instances they are never reimbursed unless the Department of Indian Affairs issues a reimbursement order. Individual solicitude is not wanting in the society of the natives. Goods, both useful and ornamental obtained by trade, quickly find their way from the hands of their owner to those of friends, and a loan of money, or a gift of food or service is never difficult to obtain, according to my observation and even personal experience.

Coöperative service between families and individuals is spontaneous when dissociated from the atmosphere of European trade, as several instances show.

³² F. G. Speck, *Mistassini Hunting Territories in the Labrador Peninsula*, AA 25: 458. Reciprocal privileges in hunting caribou and bears are cited for two adjacent Naskapi bands.

One cold night in June at the Moisie trading-post, a telegram arrived for a wealthy American fisherman who was camping eighteen miles up the river. Two of the Naskapi out from the interior were asked to paddle up to the camp with the message. Starting late in the evening, in a downpour of rain, these Indians delivered the message to the "gentleman" and returned to the post about daybreak. Despite the fact that these two Indians had paddled over thirty miles in the rain to deliver the message, they did not receive anything for their effort, not even having been asked to partake of a cup of hot tea at the camp of the man whom they had so served. Nor did they complain at large of his ingratitude when relating to me the event, more than to remark upon the heartlessness of man. This was, however, in 1915. Perhaps man's feelings have changed since then.

A few years ago one of the Lake St. John hunters, whose territory was several hundred miles in the interior, was reported by some Indians arriving at the post to have become helpless through insanity. A large family dependent upon him was thus thrown upon its own resources at a time when game was at its scarcest. Several of the members of this band at once secured a supply of provisions and hastened to the relief of the family, devoting some ten days to the trip, at a time when their own circumstances were also bad. They brought the helpless hunter and his family to the trading-post and then went back to their own trapping.

Widows who are suddenly left with families of children upon their hands are generally promptly taken in charge by the more energetic hunters, often remaining with them until they marry again, or until the oldest son becomes capable of assuming his mother's and brothers' and sisters' support. Fourteen years of age is usually considered sufficient for a youth to have gained strength and experience enough to assume his major responsibility.

"What do the Indians think when they see a stranger coming to their camps? They think how they can help him. They are glad to see him. They think of ways by which they can induce him to stay with them." There is, however, in this hospitality of thought, as general or not as it may be, little that amounts to demonstrativeness. Its absence is apt to be taken by the European as an evidence of resentment against his presence, for the exterior often shown by the inmates of a camp when a white stranger arrives is one of apathy and reserve, read by our senses as a rebuff. Perhaps it is shyness, perhaps suspicion of the stranger's motives. The natives themselves say that it is their own medium of exhibiting courtesy. Nevertheless when the stranger has entered their tents or huts they show a rather nice disposition to give him aid and service toward making him comfortable.

Cannibalism.—The accusation of cannibalism has more than once been made against these tribes. They have a distinct belief in the existence of man-eating mania possessed by individuals from time to time. And indeed it may have been true in the past among them, as it is among the Eskimo. At present, however, it should be noted there is not a single instance of authentic anthropophagy within the area among the Indians themselves, although one actual case within the last twenty years is on documentary record where whites were guilty of it and an Indian the victim. Reverting to native belief, we learn of the wi-’tigo (windigo, see page 566), who uses his Great Man or soul-spirit in overcoming human beings as he would game animals, but this only in the winter. In the winter periods of starvation he employs his power to wage conquest over the Great Man of a weaker person, then slay him and eat him for food. I might add that starvation, to which whole families occasionally succumb in their remote haunts, is attributed often to human cause of the sort just mentioned. In native esteem this is the worst aspect of the dominion of the soul-spirit, the Great Man of some unknown wrong-doer.

According to native belief, once a man had eaten human flesh he became wi-’tigo, and by having eaten so powerful a form of game, his spirit, or mic-tabéo, was so strong that other men would be afraid to attack him, so the conjuror would have to finish him by sorcery. The sorcerer would then try to get the wi-’tigo spirit into his conjuring cabin by luring it to a fight, then getting the bear spirit or some other animal spirit to get underneath him and send his spirit off into the air, off the earth. When the conjuror succeeded in this the man would be without his spirit; though alive, he would be doomed.

The rumors of actual cannibalism have been confused with fact. The Indians feel that wi-’tigo is a reality; therefore they believe cannibalism exists, but they themselves are not the agencies, as their accusers would think when such cases were heard of. William Cabot, who has had an intimate acquaintance with conditions among the Indians of this region for many years, gave me his opinion on the alleged cases of eating human flesh during times of famine in saying that “there were stories of the thing on a larger scale but they came down to the one instance.”³³ The case he cites, as the only authentic instance between 1899 and 1913, was reported from East Main river.

The first instance of cannibalism on record for the “Montagnais” of

³³ Correspondence, April 4th, 1921.

Champlain's time is described as having been witnessed by Champlain and his associates at Tadousac on the 25th of May, 1615.³⁴ An atrocious spectacle awaited them. Six young savages belonging to the Montagnais had just taken two prisoners from another tribe, and under the eyes of the Frenchmen tortured the victims and devoured parts of them, to the moral dismay of the four Franciscan priests who were of the party.³⁵

Hind, who had access to many oral sources of information on the Naskapi, which, unfortunately, he does not always refer to, reported cases of cannibalism through starvation in 1857, in which the natives were accused of using the dead bodies of their companions as food, and even bleeding their own children to death to sustain life with their bodies.³⁶ And Low affirms that previous to 1889 the persons of three families hunting in the neighborhood of Wabamisk lake all perished of starvation or cannibalism, except a woman and a small boy. He adds, however, that the case was not proven.³⁷

That anthropophagy is not an institutional trait among the northern Indians is, however, clearly shown by cases reported throughout the area of starvation in which Europeans, as well as the savages, have been driven to it as an economic resort.³⁸ Harmon (1800)³⁹ mentions cases among the French-Canadians of the northwest, among the Saulteaux and Cree, while for the latter we also have the direct testimony of Skinner.⁴⁰

Attitude Toward Social Circumstances.—There seems to be a natural assumption that the moral notions of savage man are rude and imperfect; that he is by nature an egoist, cruel, teacherous and ungrateful. Such an

³⁴ This notice has been the cause of the degradation in literature of the northern Canadian tribes.

³⁵ An interesting essay on the ecclesiastical history of early Canada is found in Georges Goyau, *Les Origines Religieuses du Canada*, Paris, 1926. Cf. *op. cit.*, p. 29.

³⁶ Hind, I, pp. 14 and 244.

³⁷ Low, p. 85L.

³⁸ It might be argued that the eating of human flesh is so natural to savages (as it is also to Europeans) when faced with starvation, as not to furnish a problem in primitive behavior. That such is hardly the case, however, is shown by the fact that the South African Bushmen, living in abject circumstances more distressing than the Labradorean populations suffer, do not practice anthropophagy even in cases of great hunger (cf. D. F. Bleek, *The Naron, A Bushman Tribe of the Central Kalahari*, Cambridge University Press, 1928, p. 7).

³⁹ Harmon, pp. 143-4. He refers to Canadians near Great Slave lake subsisting upon the flesh of dead companions; to another who killed and ate his wife and child. As for the Indians, he says the practice is not infrequent—one woman he heard of having eaten no "less than fourteen of her friends and relatives during one winter."

⁴⁰ A. B. Skinner, *The Eastern Cree*, AMNH-AP 9, 1911, p. 25.

estimate would deprive a population in a crude state of culture, like the Montagnais-Naskapi, from the merit of possessing in themselves any qualities of moral excellence, since it assumes what appears to our modern minds as the natural sequence of evolution from savagery to civilization. Our moral and social consciousness is, one might conclude, not to be looked for in uncivilized man. Nothing, however, could be more unjust in the assize-ment of behavior of the peoples we are considering. Their psychic dispositions may, I do not hesitate to say, be rated as high as those of modern averages anywhere among Europeans. I can go further in giving my own conclusions, after some years of observation of both the Indians and the whites of these territories, by saying that with few exceptions those who berate the Indians as being intentionally dishonest, ungrateful or unscrupulous as a people, possess these characteristics to a marked degree themselves. On this frontier the play of intrigue prompted by avarice becomes an open competition between the racial parties in which the European sets the example. We cannot evade the fair consideration of this interesting question by offering simply the foregoing generalities. Some actual cases must be reviewed as illustrations.

At the present time, covering a period of some twenty years, I should venture to say that where the bands popularly known as Montagnais have come more and more into contact with whites, their reputation has fallen lower among the traders who have known them through commercial relationships within that period. The accusation is made that they have become less honest in connection with their debts, less trustworthy with property, less truthful, and more inclined to alcoholism and sexual freedom as contacts with the frontier towns have become easier for them. Richard White reports in 1933 unusual instances of Naskapi breaking into traders' store houses. The Indian agents report them varyingly. Some publish their opinion of the Indians within their jurisdiction as being "no more intemperate nor immoral than the average white community around them." Others affirm the "laxity of moral behavior and willingness to imbibe alcohol when they can secure it as the menaces to their moral progress." Stated in such general terms as we find in the agents' reports over a series of years in the annual publications of the Indian commissioner, this means nothing.

The Indians here are held in poor esteem by the Canadian inhabitants. It is generally known that they will all drink to excess whenever possible. And yet there is nothing singular to them in the truth of this; for if contempt rests upon it, few white men of the region are above it; indeed, many are deliberately guilty of its promulgation among the Indians.

Another opinion is communicated by Mr. Richard White, Jr. who has

lived and maintained a trading establishment at Nain, Labrador, where he has contact with the Barren Ground Naskapi, one of the few still pagan bands. He asserts that in his wide experience in different parts of the world he has never found a people who lead such moral lives as these very savages.⁴¹

And finally, the Indian females are hailed as dissolutes by the French Canadian settlers because their sons find it so easy a matter to exploit the natives' sexual weaknesses. I myself find it as difficult to judge the situation in its general phase as I did, on a specific occasion, to satisfy myself which of the two parties of an amorous racial encounter in the woodshed of an Indian cabin at Lake St. John was at the bottom of the affair—the very pretty Montagnais girl or the uncouth French-Canadian. The Montagnais girl showed worse selective discrimination than the youth, who at least had an eye for charm beneath a brown skin even when his dull wits were befuddled with alcohol. In justice to standards of the towns on this frontier I should add that the better-looking half-breed boys many times have equally good chances with the *habitant* girls, and frequently marry them; so the score, it seems, is settled on both sides, though the Indian female gets the “jazz”—using this expressive term in the sense it has acquired both in Canadian French and English.

Furthermore, the Indians here are universally denounced as being “dirty” in their financial dealings with the numerous free traders who now compete over the fur-trade like badgers. The bitterness of the accusation is substantially founded in the case of both parties, as the following instances may show.

A case in point: Tsebic is a trapper and hunter of the Lake St. John band. For a number of years A——, a French Canadian, has been carrying on a profitable trade with him and others. By buying their furs at a low price and selling them merchandise at a high price he has succeeded in building himself a comfortable home and store. He desires to retain their trade. The Indians realize fully the nature of his dealings, but can not avoid them until trade competitors enter the territory. In the fall Tsebic often has to receive an advance of goods from A., amounting sometimes to \$1,000 worth, to meet his winter demands in the bush. Sometimes if his furs of one winter have not reached the value of those of other winters, A. threatens to cut down his advances or even to discontinue them entirely. This means a shortage, possibly a famine for Tsebic and his family in the bush that winter. A. has for years tried to force him to increase his fur catch by trapping harder each year. To do this will mean reducing the breeding stock of his fur-bearers. Continued depletion will mean economic disaster. A., however,

⁴¹ Correspondence 1928.

never stops demanding more furs, more profit. Finally, after a poor winter's hunt, Tsebic, already in debt to A. for advances amounting to \$2,000, is refused further credit until he has paid the \$2,000. Tsebic, now in need of an advance, consults another trader, receives an advance of \$1,000, buys necessary supplies for his winter's hunt and promises to pay the amount off in furs the next spring. After a fair winter's hunt he brings the furs to the second trader, who estimates their value at the low figure of \$600. In the meantime A. duns Tsebic for the furs to reduce his debt with him. He succeeds in coaxing furs from Tsebic which he estimates at \$50. At this stage of his finances it may be noted that Tsebic owes A. \$1,150 and the second trader \$400. A. warns the second trader against dealing with Tsebic as being "crooked." The second trader takes the hint and refuses Tsebic another advance until he has squared his debt. To do this Tsebic is obliged to wait until winter, as usual, and go trapping in the bush. But an advance for supplies is necessary to him. Now neither A. nor the second trader will furnish him with this, for his bad business reputation has become known. Any trader who supplies him with an advance is taking serious risks. Well, perhaps at last he gets another trader to trust him with an advance. To accomplish this, however, he must resort to tears; must picture the distress and starvation of his family through the long cold winter, and make promises, swearing by Mary and all the Saints, that he will trap hard and prove himself an honest man by paying off his last creditor first. Spring comes, and Tsebic, ready to pay in furs what he considers full value for the advance received, is told by the last trader that his estimate of the furs is too low by some \$500. Right or wrong, Tsebic has to accept the decision. He is now listed as owing the third trader \$500, the second \$400 and old man A. \$1,150. He does not know what to do in his financial stress. He needs an advance for the coming winter but, owing to his bad reputation, his promises, his pleas, his reference to sickness in his family, to the decrease of furbearers in his hunting grounds, produce no effect. A confirmed crook, no one will trust him, although everyone knows there is truth in his excuses. To secure the next winter's necessary advance, he must prevail upon a new "sucker." If he does not succeed, then famine, attendant sickness, death, perhaps extinction of his family is the consequence, and there is one "dirty," cringing, crooked Indian less.

I met trader A. of this narrative in the winter of 1925 on his way to the winter hunting camp of Tsebic. He had hired a dog team to take him there in the hope of surprising the Indian by his sudden appearance at the hunting camp. He intended to attach and take away what fur Tsebic had already gotten, toward reduction of his \$1,150. debt. If the Indian had the fur at his

camp, A. was prepared to seize it. He knew, however, that if Tsebic had the slightest intimation that he was coming, Tsebic would bury the bulk of his winter furs and leave not more than \$50 or \$100 worth to be seized. Another dirty trick! A. would take "the pound of flesh" even though he knew that Tsebic was deeply in debt to two other men, and that without offering furs to annul old debts, he could not hope for another advance. (I regretted at the time that I was unable to warn Tsebic of trader A.'s approach.)

Another example of commercial intrigue, in which the undercurrent forms a tangled skein of ethical motives, is the following: Some years ago, in the Lake St. John district, a French-Canadian fur buyer, desirous of out-reaching his competitors, secured the coöperation of a Scotch-Montagnais "métif." It was planned to send a party up one of the rivers, down which the Indian trappers descend in the spring, to meet the Mistassini trappers and trade them alcohol for their furs before they met any other traders. Their intention was, of course, to use alcohol, the irresistible medium, in making a clean-up. To serve this purpose four canoes and eight Montagnais canoe-men of the Lake St. John band were engaged. They were placed in charge of one of the more experienced of the eight, who was entrusted with the details of the enterprise. The expedition set out and all went well as the party reached a point well up the river where the Indian trappers were expected to pass in a few days. There they went into camp. The next thing they did was to begin drinking up the cargo of liquor entrusted to them, evidently with the sanction of their leader. Several days after, when the Indian hunters pulled in sight with their precious furs, they found the would-be traders in a beastly drunken condition, with the stock of liquor largely exhausted. Not knowing the circumstances and meeting with no hindrance, they, too, fell upon the remainder of the wet goods.

In a short time the last drop was consumed. When the combined parties had sobered up, the fur-laden Mistassini trappers learned of the trick that had been planned to debauch and defraud them. But it was too late to rectify the matter, since the savages from Mistassini still had their furs and their civilized brothers from the post had no more liquor. With no ill feeling between the two parties of Indians, they reached the Lake St. John, the Mistassini trappers to trade their furs for the necessary supplies, the others to report to their employers the total loss of their stock. Naturally, the eight Montagnais employees were accused of flagrant dishonesty by everyone who appreciated the commercial value of the trust they had violated. But the story, as I heard it from the leading participant, was recited in a tone and manner betraying a deeper motive. They had evidently protected their Mistassini brothers from whiskey exploitation at the expense of their

own reputation as trustworthy men. The whole affair was regarded among the Indians of the district as a joke on the traders, who, of course, had no means whatever, either of punishing the culprits or securing satisfaction by resorting to the law. From the point of view of the savages themselves, and as well, perhaps, from that of the reader, this narrative illustrates the utilitarian basis underlying Montagnais-Naskapi ethical behavior.⁴²

While the following account is not illustrative of any particular ethical qualities of the Indians, it reflects their submissiveness to conditions imposed by the Europeans. A transaction between one of the remote Naskapi hunters of the East Main band and the Hudson Bay Company trader at East Main, about 1902, was detailed to me by Simon Rafaël of the Lake St. John band in 1920. The latter is responsible for its accuracy. He claimed to have met the Naskapi in question himself and to have gotten the details at first hand. The Naskapi hunter had, that winter, brought out the following furs (with the approximate valuation for that year in the right hand column). At the time he was \$400. in debt to the factor of the post.

4 Black fox	(\$1500. each)	\$6,000.00
40 Marten	(40. each)	1,600.00
25 Otter	(15. each)	375.00
100 Beaver	(6. per lb.)	600 00
		<u>\$8,575.00</u>

For the above he received the following supplies, the value estimates given being those current at the Rupert's House Post, about 50 miles south.

100 lb. pouch of flour	\$6.00
50 lb. bag of oatmeal	<u>3.00</u>
	\$9.00

At the termination of this transaction the trader notified the Naskapi that he was still \$20 behind in his debt. Rafaël says that the Naskapi declared himself satisfied.

To sum up: the total value in the European market of the furs acquired having been \$8,575, the allowance of \$380 in reduction of his advance-debt, plus \$9 in goods, left a profit of \$8,186, something over 2000 per cent. The case is interesting enough to cite, even if the figures be regarded as much exaggerated.

As to modern conditions, it is not easy to judge the direction of change, whether ethics are better or worse than formerly. The principal difficulty lies

⁴² The foregoing narrative was published in the form of a story in *American Indian Life*, edited by Elsie Clews Parsons, New York, 1922, entitled "In Montagnais Country."

in the fact that we have not the opportunity of judging both periods by an inflexible standard, since the observations have not been made at different time periods nor by the same person.

The following translation of an expression of their pitiful condition indicates the tenor of the native mind toward coöperation.

Can our words meet your views, we Indians? Can our words enter into your hearts, you that govern, we who live here, we who are born here, and consider ourselves possessors of the soil, by the will of the Great Creator of the Universe? Our lands and country now ruined, we can no more find our living; our rivers taken from us, and only used by strangers. Through your will, we can only now look on the waters of the rivers passing, without permission to catch a fish, we poor Indians. And now what are your intentions toward us? You have, no doubt, all the means to live, though not we; would you consider our poverty and take compassion upon us? We pray you to send us some help; our poverty does not arise from laziness and want of energy, but from being unable any more to procure for ourselves and families food; and we are all of one mind, that since our lands and rivers afford us no more the means to live, you who govern should take our present distress into your consideration without loss of time and for which we will most gratefully ever pray.⁴³

(Signed)

Domenique, Chief.

Bartholemy.

Jerome.

Moisie.

June 30, 1861

UNIVERSITY OF PENNSYLVANIA
PHILADELPHIA

⁴³ Hind. Vol. II, pp. 115-116.

NARRATIVE OF AN ARAPAHO WOMAN¹ By TRUMAN MICHELSON

INTRODUCTION

THE following are the most important ethnological works on the Arapaho:

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Dodge, Col. R. I., *Our Wild Indians*, Hartford, 1882, and Dyer, Mrs. D. B., *Fort Reno, etc.*, New York, 1896, can be used only with caution: see the annotations of James Mooney in the bibliography given in his *The Cheyenne Indians*, AAA-M 1, pt. 6, Lancaster, Pa., 1907; compare also Truman Michelson, *The Narrative of a Southern Cheyenne Woman*, SI-MC 87, no. 5 (see footnote 1, p. 4),

¹ Printed by courtesy of the Smithsonian Institution.

City of Washington, 1932. Though compelled to assent largely to Mooney's strictures, I think it only fair to say that both works contain some elements which cannot be ignored. To find these in Mrs. Dyer's book is like looking for a needle in a haystack. I have characterized Dodge's book previously; I may add that some statements made about Indians in general which cannot be sustained are true of the Arapaho specifically.

Most early writers on the Arapaho have a poor opinion of Arapaho in contrast with Cheyenne women. Were this expressed only by sensational and unreliable "authorities," I should pay no attention to it; but as sober and reliable a writer as Clark confirms this; he also condemns some other tribes and praises the Sioux and Cheyenne for the morality of their women. As far as the Arapaho are concerned, I am inclined to believe that their unfavorable reputation is due to the fact some institutional practices recorded by other writers and myself were observed and supposed to be of every day occurrence, whereas they are strictly circumscribed and do not justify the opinions expressed.

The following narrative was obtained for me by Jesse Rowlodge, near Geary, Oklahoma, in July 1932, from an informant aged 77 years. I have corrected Rowlodge's English slightly, but otherwise the narrative is given as written out by him. I wish to express my warmest thanks.

After I received the narrative from Rowlodge, I questioned him on various points in order to determine how much was institutional, etc. He also volunteered additional information on a number of topics. These notes are incorporated; and some references (not exhaustive) are given to the published works on the Arapaho and a few other tribes. All these are added solely as an aid to the comprehension of the text. They also bear witness to the authenticity of the narrative.

NARRATIVE

I tell this story of my experiences as I remember them since my girlhood.

My father had one wife who was my mother.^{1a} She had seven children.²

^{1a} This is unusual. Normally when a man married a girl (usually soon after adolescence), he married her younger sisters as they grew up, three or four, or possibly more, without ceremony. (It may also be noted that the first husband of the narrator did not marry her younger sisters.) Compare Kroeber, *The Arapaho*, p. 14; Curtis, *The Arapaho*, p. 149; Dodge, *Our Wild Indians*, pp. 201, 202. Exceptionally good warriors might be given the younger sisters before they had reached puberty, but they would not have intercourse with them till they were mature. They would let them know that they were their wives, and joke with them. (For this last, see below note 33.)

² Doubtless the reason the number of children is mentioned is that seven is a "holy" number among the Arapaho: see Clark: *The Indian sign language*, pp. 41, 355; Kroeber, *loc.*

I had five sisters and two brothers. I was the second oldest child, one brother being older than I.

As was the custom then, the Arapaho made frequent moves from place to place by means of ponies. The old women and children often rode in the travois;³ and sometimes the heavier things were hauled.

I had a saddle of my own, and always had several ponies.

Whenever a camp was made the girls and boys would get out together and enjoy themselves with various games⁴ until sundown when we would all retreat to our tepees for the night.⁵

Up to the time I was ten years old⁶ my mother allowed me to play unrestricted with boys of my own age. I was very active in most of our sports, especially in swimming and riding ponies.

When I became older my mother equipped my bedding which was always on the west side of our lodge.⁷ Up to the time of my marriage I always slept with a girl chum who was also my cousin (my mother's sister's daughter).⁸

I said that we always played games that were common among the tribes associated with the Arapaho, such as packing one another upside down, swimming across rivers on the back with one foot sticking above the water with a ball of mud on the big toe⁹ which represented a grandchild. We had to swim feet first, and swim straight across regardless of the speed or current of the stream. Then we would line up and see who could dive and swim under the water the longest and farthest without a breath, or coming above

cit., pp. 51 *et seq.*, 411, 412, Dorsey, *Arapaho Sun Dance*, pp. 59, 65, 101, 110, 111, 113, 121, 155, 182, 183, 184, 202, 203, Mooney, *The Ghost Dance Religion*, p. 986 *et seq.* Years ago a northern Arapaho once rationalized in my presence why seven was the original "holy" number and why it was clear to him that four and five were only corruptions of this, despite the fact that four and five occur as "holy" numbers also among the Arapaho, as any one can see from the actual ceremonials, etc., as well as Kroeber's explicit statement.

³ Rowledge informs me that the last travois among the southern Arapaho was used one or two years after the Darlington Agency was established, 1869.

⁴ See Culin, *Games of North American Indians*, *passim*; and below.

⁵ It was an Arapaho regulation for girls to be either inside or in the vicinity of the tepee by nightfall. With respect to boys, the Arapaho are indifferent.

⁶ This is the institutional age. Up to that time a girl has no desire to wear a belt except ceremonially.

⁷ The west side is the Arapaho norm for either girls or boys. When there are boys of unmarriageable age, they are given the preference usually. In that case the girl's bed was shifted to the north side of the tepee. For Arapaho beds, see Mooney, *The Ghost Dance Religion*, plate CXX, figure 89, also pp. 963, 964.

⁸ A girl's chum is not necessarily a relative, the chum is usually a girl of the same stature and age.

⁹ See Dorsey, *loc. cit.*, p. 191.

the water level. This was usually downstream. We did this ordinarily in the spring and summer. We also played with rag dolls about the camp. We would use forked poles that were usually used about the tepees for our ponies.¹⁰ Some girls would have small squaw-saddles for play like real ones with cruppers.¹¹ My chum and I each had doll cradles which were beaded and also beaded saddle bags. Mother made us buffalo-calf hide robes to play with. These were tanned with the hair on, just like real robes. Some were decorated with porcupine quills and some were painted. We also had play-tepees and poles. Whenever the camp broke for a move we were made to take care of our playthings, that is, to bundle them up and to see that they were properly packed on the travois;¹² and when camp was pitched it was also our duty to unpack them and to place them in our tepees where they ought to be.

I learned to ride alone on my own pet pony when I was quite small. My mother used to tell me that when I was still a baby in the cradle, she would strap my cradle to her saddle¹³ and drive a herd of ponies across the prairies, sometimes all day long.

Whenever my father or my maternal uncles would bring deer or buffalo meat, we would get some small pieces of the meat, slice it, dry it, and put it away in our toy rawhide parfleches. These were made to be playthings but were painted and fixed like real ones.

¹⁰ The use of forked sticks to represent ponies is institutional; *cf.* Michelson, *The Narrative of a Southern Cheyenne Woman*, p. 3.

¹¹ The front supports of a saddle of an Arapaho woman were of willow painted and decorated with brass tacks and buckskin fringes; an Arapaho man's saddle had front and back supports of elk-horn covered with rawhide (so Rowlodge). Clark Wissler in his *Riding Gear of the North American Indians* (AMNH-AP 17, p. 1, *et seq.*, and p. 31 particularly) apparently does not make this distinction.

¹² All this is institutional for women, as is pitching camp, etc.

¹³ Strapping cradles to saddles was common among the Arapaho. It may be noted that pulverized horse-manure, freed from coarse fibers, was kept by Arapaho mothers who placed this between the legs of their children when in cradles to absorb the urine and faeces. Buffalo chips were also used for a similar purpose. Incidentally it is a favorite joke among brothers-in-law. One would tell the other that his mother probably didn't care much for him, and didn't change the pack often, as it became wadded like a ball below his knees so often and so long, that he was bow-legged in consequence of it. The reply would be that his parents wanted to be sure to start him early in life to be a warrior and horseman, and that as soon as he was able to walk he was strapped on the back of a pony with his feet tied together under the belly of the pony, and that riding that way had made his legs bowed. A bow-legged brother-in-law would tell a brother-in-law who was knock-kneed that he had grown that way because his mother didn't even care to use the manure in his cradle or to train him to ride when young, but probably he rode among the old folks in a travois which was crowded; or that he had been put tied in his cradle any way, mostly about his knees.

My mother also taught us girls to braid our own lariats that we used to pack our belongings. Sometimes a hide-rope about one inch wide was used. This was also used to pack firewood. Sometimes women, whose duty it was, would pack wood and carry it on their backs for large distances. I remember when I was quite small that I helped my mother pack wood for a long distance. When I became a young woman I was not permitted to pack wood on my back, as that was the duty of older women.¹⁴

By the time I was fourteen years old, I learned to do good bead-work, tan hides, and make almost anything. I also learned to do porcupine quill work.¹⁵

When I became mature a young man, who was known as a brave young warrior, gave me a nice finger ring, which had an inlaid red metal. I thought much of him for this.¹⁶

The custom of the Arapaho mothers was to watch their daughters strictly at all times. They would even accompany us girls to the brush when we went there to attend to nature's demands, for fear some young men might be ambushed, watching their chance to have even an opportunity to talk to us girls. At nights my mother would go out with my chum and myself to see that no young man would molest us.¹⁷

¹⁴ A matured married woman, or one that has been married is by regulation the right person to pack wood on her back. A young woman or a growing girl might do it in play. The fact noted by Dodge, *loc. cit.*, is true enough specifically of the Arapaho. (Per contra, for example, the Kansa: see J. O. Dorsey, *Siouan Sociology*, in BAE-R 15, p. 232). The interpretation placed on it by him is another thing. See below.

¹⁵ A girl in her teens begins to learn porcupine quill work through the instruction of her mother, elder sisters, or her paternal aunts. The same applies to tanning hides and to bead work. In porcupine quill work the quills were not used alone, but fine wiry roots pulled from along the river bank were used with them. These were of several different colors, black, brown, and even yellow and white. Women would also use corn husk either in their natural color, or various shades. They would even dye the husks with commercial dyes or use some berries for this purpose. See also Curtis, *The Arapaho*, pp. 142, 159.

¹⁶ The red metal referred to was either gold or copper. Brass is known as yellow metal, silver as white metal. The gift of the kind mentioned is common among both the Arapaho and Cheyenne as a token of friendship or love.

¹⁷ It was common for young men to waylay young women along paths when the latter were bringing water through the brush from a stream. If the girls' mothers were accompanying them, there usually was no chance; but if they were not there, if a young man called a girl, if she didn't leave the path, he came, picked her up, and carried her to the brush. Some young men were daring in this, and young girls were mostly afraid to venture out without a chaperone. In case a young man seized a girl carrying water from a stream to camp, she usually did not scream or cry for help. Compare Kroeber, *loc. cit.*, p. 14, Curtis, *loc. cit.*, 149. Note that Dyer and Dodge, sensational as they are, both agree that a resisting girl was not violated: see Dyer, *Fort Reno*, p. 83; Dodge, *Our Wild Indians*, p. 196. How does Dodge reconcile this with his statement on Indian men, p. 210? If a man sneaked into a teepee and touched a girl's

Sometimes young men would regulate the smoke-draughts of tepees to make them smoky, thinking the girl of the tepee would come out to regulate the draughts by the outside poles that supported the weather-strips; but they were mostly fooled as that would be a mother's duty.¹⁸ But it was commonly known that whenever a medicine bag was kept in a tepee, the tepee would not be molested; and the same respect was shown a tepee in which a medicine man dwelt.

When I became old enough to have my own things I usually had two beaded hidebags for my clothes that were set nicely along my bed next to the tepee-wall, and my beaded saddle-packetbag hung on the head props of my willow bed.

genitalia, he would be considered as of low class, and he could not claim her because he had done so, in sharp contrast with the Cheyenne practice—see my *Narrative of a Southern Cheyenne Woman*, p. 5. The Crow or Sioux man who performed the same trick, lost caste: see the references given in my *Narrative*. A couple of other points not referred to in the present paper may be mentioned. If an Arapaho man saw an Arapaho girl nude, and told of it, the girl's parents would make a move to have the young man marry the girl, if both parties were Cheyenne, the boy's parents would make the move. "Roping" though not mentioned by Kroeber and modern ethnologists was in vogue among the Arapaho: see footnote 1, p. 4 of my *Narrative of a Southern Cheyenne Woman*. References to the practice among the Cheyenne, Assiniboine, and Sioux are also given there. To these may be added another reference for the Cheyenne, namely, Dyer, *Fort Reno*, p. 81. The following notes on "roping" are from Rowledge. Regarding the use of a rope by a virtuous girl, it should be understood that its use was mostly at night during some ceremonial or social function when opportunities for courtship were plentiful and when advantage of an unchaperoned girl was taken by young men. The rope was tied about the waist with the knot in front, and the remainder of the rope was wrapped around the legs by half hitches down as far as the knees over a cloth, preferably a sheet or light blanket. If a young man forcibly untied the rope and removed the cloth, touched her genitalia or had intercourse with the girl, it was usually understood that he had made promises to marry her; otherwise she would have screamed for protection. However, when violated, the girl was sure to tell of it, or if she didn't, she was asked by her mother. The girl mostly told the truth. Immediately upon her report of being molested, her mother or other female relatives made the matter known to the young man's parents, requesting an immediate marriage which was carried out by the parents erecting her tepee in the usual form. Sometimes the girl did not tell right away. Dodge (*loc. cit.* 203; see also 195, 196, 203, 212, 213) adds that refusal of marriage was punishable by death.

¹⁸ If the mother of a household happened to be in bed, and the younger women or girls were still up and were visiting, and the young men had changed the tepee flaps, if a girl chanced to be inside she would be asked to adjust the flaps as her mother might not suspect any one was around. In that case the girl would step out and perform her mother's usual duty. Then if a young man was there he would immediately come to her beside the tepee and cover the girl and himself with his blanket. They would talk a while, and the girl would run in before her mother became suspicious. See also Kroeber, *loc. cit.*, p. 14. Sometimes a young man would arrange a "date" with his innamorata through a niece (sister's daughter) or through his brother's wife. At such meetings the marital act would be performed.

I was always well-supplied with sweet smelling leaves for my clothing. I would pack these among my clothing, some in my pillows, and a bunch was even tied in a small gay-colored calico cloth on to my necklace-beads. We would also gather from weeds some black seeds which we collected in swampy places. We would pound or grind these seeds until they were very fine; we then sopped them and used them to perfume our clothes and hair. We would also use this preparation on the manes and tails of our favorite ponies.¹⁹

My toilet-case was made out of hide which was nicely beaded; and I would keep in it the paints, mostly red and yellow, to paint my face, a hair-parter (a stick) also used to paint the part yellow or red, a porcupine-tail brush, earrings, bracelets, and rings.²⁰

My mother would talk to me for quite a while regarding my behavior.²¹ She would tell me not to glance around in public places, not to laugh out loud, not to peep at young men whenever they were near our tepee, and not to respond to the flashes of mirrors held by young men at a distance, as these indications would govern young men's opinions of the character of a girl.

You see that I wear these ear-bobs. My ears were pierced by a Sioux Indian at a Sun Dance when I was a small girl. My father gave his best riding pony, a pack of several robes, goods, and a silver bridle to this Sioux for piercing my ears. This Sioux told of his brave war-deeds.²²

¹⁹ All this is conventional.

²⁰ The toilet-case and contents are institutional. Today a toothbrush is substituted for a porcupine-tail brush, because porcupines are scarce.

²¹ Ordinarily an Arapaho mother hasn't (or conventionally hasn't) much time to lecture her daughters regarding their conduct. A girl's paternal aunts take it upon themselves to instruct their nieces, and see that they have the right training so as to be respectable for the sake of their (the nieces') brothers and male cousins. Formerly I was in doubt as to whether the prominence of the paternal aunt in my "Narrative of a Southern Cheyenne Woman" was institutional or not. Lowie, AA, ns. 34: 534, suspected it was, which is confirmed by my field-notes of the summer of '32. "A Cheyenne girl is usually named after her paternal aunt who is responsible if anything goes wrong with the girl."

²² Any public gathering or dance is preferably the proper place for a child's ear to be pierced. The gift of robes and other valuables, together with a pony, when a child's ears are pierced is customary. See Kroeber, *loc. cit.*, pp. 18, 19, 365, 366; Dorsey, *loc. cit.*, pp. 179, *et seq.*, 182; Dyer, *loc. cit.*, p. 167 (Arapaho or Cheyenne). Hayden, Contributions to the ethnography and philology of the Indian tribes of the Missouri valley, p. 323, specifically denies the gift of a pony by Arapaho on such an occasion, as opposed to my own information and the authorities cited by me.

The Sioux Indian referred to told his valorous deeds so that it would be known that he was not torturing an innocent child's flesh; if he had never tortured his enemies in actual warfare or in the protection of life, he could not pierce the ears of a child. Before a warrior even

As my mother was a doctor I learned through her the use of many herbs, roots, bark, leaves, and seeds of certain plants for the treatment of various ailments, before I was married.²³

This is how my married life was.²⁴ Since I was not acquainted with the young man who became my husband, he sent his mother, two of his own sisters, and his paternal aunt to ask my brother, and my maternal uncles for permission to marry me. My brother had given his consent before I was aware of it, as I happened to be away at the time.²⁵ When I came to our tepee my brother came to me, which was unusual,²⁶ sat near me and started to tell me what he had done, and that he had done so for the good of our father and mother. My father had expressed his willingness also. So when my mother started to talk to me, asking me to say what I thought, I told her that if my brother said it was all right, it would be all right with me, as I didn't want to hurt his feelings by refusing.²⁷

begins to pierce the ears of a child, the drummers immediately start singing a spirited song; the same songs are used before charging the enemy in actual battle; while the singing is going on the piercer dances, whoops, and yells as if ready to charge; when the song ceases he begins to tell the drummers a certain noted experience of his own in warfare, to which the drummers respond with quick sharp raps on the drum at every important reference of the narrator, the shrill screams from the women indicating their approval; at the end of which he says that he means well by his truth, then approaches the child and either actually pierces the child's ears, or he makes pretended motions with a small stick, vesting the authority in some relative of the child later to pierce its ears.

²³ It is a custom that a woman doctor instruct her daughter.

²⁴ For Arapaho courtship and marriage see Kroeber, *loc. cit.*, pp. 12, 13; Curtis, *loc. cit.*, pp. 149, 159.

²⁵ It is an Arapaho tribal custom for a brother to either consent to or refuse assent to his sister's marriage when some young man has asked for her through his mother, sisters, or paternal aunts, regardless of whether the brother is older or younger than his sister over whom he has authority (compare also Mooney, *Calendar History of the Kiowa*, pp. 232, 233; my own Kiowa notes of the summer of '32 confirm Mooney's statement, and add some details), unless he had previously given that authority to his mother's brother or brothers, or some male cousin, or in some cases, an adoptor of the girl, or the adoptor's son may have asked the girl's parents to take charge when she marries, which is usually consented to by the girl's brother, or, if she had no brother, by her maternal uncle. In case the father objects to his daughter's marriage after her brother has consented, it is customary that the brother's word will be followed.

²⁶ See Clark, *The Indian sign language*, p. 82, under Brother; Curtis, *loc. cit.*, p. 150, Kroeber, *loc. cit.*, p. 11. [The reason why I have given so few references to Clark's work is that, although a wealth of ethnological data are in it, frequently the exact tribe (especially Arapaho) is not named, so we understand Indians of the Plains in general; yet it should be noted that often the data confirm Arapaho ethnology: see for example, the articles Courtship, Ear-ring, Marry, Mourn.]

²⁷ This answer is purely conventional; a similar answer is also institutional among the Kiowa, as I know from my field-work among them in the summer of '32; in the same manner the

My brother had told the women who asked for me that he didn't want the young man to work or care for our ponies for a long time as was the usual custom,²⁸ before actually living with me, but had told them to bring over the ponies at once, which was done. Eight of the prettiest ponies of my future husband's male relatives were led over. My brother then invited our male relatives, including several maternal uncles, and (male) cousins who, after their meal, made their selections of the ponies brought.

A nice decorated tepee was then erected by my paternal aunts with the necessary equipment that goes with a tepee.²⁹ Around this tent the ponies were staked which my male relatives had brought in exchange for the ponies they selected.

My female relatives then brought together the food they had prepared in their tepees, mostly buffalo meat with much fat, to my new tepee where my future husband and his folks were then invited to come and eat the food prepared by my people,³⁰ after which they were told which pony was theirs in return for the one they had brought. Some ponies (not the ones received) were given with robes, blankets (Mexican *zarapas*), quivers of otter and leopard (panther, jaguar?), bows and arrows, guns, and saddles.³¹

Thus my married life began. I went to my husband in the tepee put up

girl's reply on p. 6 of my "Narrative of a Southern Cheyenne Woman" is not a personal one, but one conforming to tribal custom, as I found out some months after this was published. Rowledge adds that an Arapaho girl rarely disobeys her brother's decision, and usually expresses herself with deep emotion in approbation of his consent, because of her love for him.

²⁸ It was usual even after the consent by the proper male relative, for the future husband to care for the ponies of the girl's parents, or hunt for them, or to do other work for them sometimes as long as from one to two years before he finally married the girl. Nothing like this is recorded of the Arapaho by either Kroeber or Curtis, nor is it denied. For something like it consult Kroeber, *Ethnology of the Gros Ventre*, p. 180. A close parallel existed among the Sauk and Fox: see *Letter to Reverend Dr. Jedidiah Morse by Major Morrell Marston, U.S.A., commanding at Fort Armstrong, Ill., November, 1820*, p. 166; and *Account of the Manners and Customs of the Sauk and Fox Nations of Indians Tradition . . . by Thomas Forsyth, Indian agent for the U. S. Government; St. Louis, January 15, 1827*, p. 214,—both in *Indian Tribes of the Upper Mississippi Valley and Region of the Great Lakes. . . by Emma Helen Blair, volume II*. See also Alexander Henry, *Travels and Adventures in Canada and the Indian Territories*, p. 302.

²⁹ The wedding tepee is usually attended to by the girl's paternal aunts as well as her mother.

³⁰ The feast is institutional.

³¹ The brothers, maternal uncles, and also the male cousins of the girl usually after making their selection of the ponies gave in place of the ones selected, the best they had themselves; and sometimes an extra pony was given directly by the girl's male relatives to the future husband; sometimes two extra ponies were given. In addition the male relatives of the girl made gifts of their blankets, robes, quivers, bows and arrows, or guns, or complete riding regalia. That is to say, the gifts mentioned in the text are conventional.

for us,³² and sat down by him as my mother had instructed me. His brothers and (male) cousins (both sides) came in; and they started to tease me, and joked with me, and I with them;³³ so we sat up almost all night.

My mother had prepared a nice supper that I took to my tepee and served my husband, his brothers, and cousins.

It was, and still is, the practice to dash cold water on one's brother-in-law if he was caught asleep, and vice versa, no matter how cold the weather, which was a great joke. I always got up very early in the morning so that joke was never played on me.³⁴

Sometimes a younger brother-in-law or sister-in-law who usually slept in his (her) mother's tepee where the food was prepared or the cooking done, would rub his or her fingers on some sooty pot or kettle, and steal into his sister-in-law's tepee, and while she lay asleep, would black her nose and eyebrows; and a sister-in-law would do the same to her brother-in-law.³⁵

It was four years after my marriage before I had my first child.³⁶ My husband was good and kind to me. He never scolded nor hit me.

After my first child, a boy, was a year old, I became ill, and my mother took me to an Indian doctor at another camp, in accordance with the request of my husband. After I had been away from my husband a few days, word came to me by a messenger³⁷ that my husband had suddenly become sick and had died. Owing to my serious illness at the time of my husband's death, my father pleaded with me not to cut my hair, nor cause any cutting on my flesh;³⁸ so while I obeyed my father, I cut my hair just a little.

³² After the feast a girl proceeds to her tepee which has been completely equipped and sits at the foot of the bed, which usually is on the west side, the head of the bed may be to the north or south; the tepee of course always faces the rising sun.

³³ Kroeber, *loc. cit.*, p. 11, does not note that the joking between sister-in-law and brother-in-law extends (as shown by the text) to such persons as are classified as brother-in-law; nor does he note that beyond the innocent jests mentioned below, an actual brother-in-law may romp with his sister-in-law in a way far transcending our notions of propriety. see Michelson in a forthcoming number of the *American Anthropologist*; I do not know whether that sort of romping is permitted or not to a person merely classified as a brother-in-law. My notes do not show whether the joking immediately after marriage is institutional or not.

³⁴ For this joke see Kroeber, *loc. cit.*, p. 11.

³⁵ The trick was sometimes done by old brothers-in-law and sisters-in-law.

³⁶ Doubtless the reason the birth of the first child is mentioned is because four is a "holy" number among the Arapaho: see note 2 above; and Kroeber, *loc. cit.*, p. 412; Dorsey, *loc. cit.*, pp. 59, 60, 61, 71, 72, 76, 85, 88, 89, 97, 101, 107, 113, 166, 175, 176, etc. To the references given by me in my *Narrative of a Southern Cheyenne Woman*, footnote 4, pp. 8, 9, add Clark, *loc. cit.*, p. 101.

³⁷ Any one, though preferably a young man, with a pony would respond to a request to deliver a message.

³⁸ It was customary for a woman's hair to be cut at the death of any relative, including

After the death of my first husband, I was single for two years, caring for my baby son, who was then about two years old. One day my parents told me a young man had asked to marry me. After thinking the matter over a day or two, I told my parents that I preferred to remain single for my boy's sake; so my father accordingly sent word of objection to the young man. In some way, a male relative of mine heard of it, and after telling me of my situation and that of my aged parents, advised me of his consent for me to marry. I agreed to do this,³⁹ so according to Arapaho custom the young man proceeded to work for my parents, herding our ponies, hunting for us, getting wood, etc.⁴⁰ He would always come to our camp for his meals that my mother would prepare and I would talk to him and sit with him in the tepee of my family.⁴¹ Of course my mother would leave and not be in sight of her future son-in-law.⁴² For more than a year this young man attended to his duties towards us before I was finally given to him. Three ponies were then brought to my male relatives who took their pick, and each gave one in place of the one received, together with other gifts, to the young man's male relatives. The wife of my male relative who had given his consent erected a large tepee of buffalo hide and set up the full equipments of willow head-props,⁴³ and then the young man was directed with his relatives to eat the food which my people had prepared.

I was by this time very used to this man, so I immediately began to

her husband; and her flesh was gashed, preferably below the knees, and sometimes on the arms below the elbows. Any female relative called upon could do the gashing; or a woman did it herself. Sometimes women would make gashes even on their foreheads. See Curtis, *loc. cit.*, pp. 150, 159; Kroeber, *loc. cit.*, p. 16.

³⁹ See above, and notes 24 and 25. When a female Arapaho becomes a widow she has the right of thinking more for herself about her second marriage; but her male relatives continue their authority over her for her own interest, or her parents' interests, or her children's interests, if she has any, and she must continue to respect their authority. The consent of the woman is purely conventional. It is unfortunate that the exact male relative is not mentioned.

⁴⁰ See above and note 28.

⁴¹ Sometimes the girl's mother or the girl's paternal aunt even erected a tepee which the young man would occupy, and where his future wife would take his meals, she herself continuing to occupy her parents' tepee with them.

⁴² Formerly an Arapaho woman would not be in the same tepee with her son-in-law; the same avoidance was institutional among the Assiniboiné, Blackfoot, Cheyenne, Gros Ventre, and probably elsewhere: see my Narrative of a Southern Arapaho, footnote 3, p. 8. About 1902 the Arapaho practice commenced to be ignored, and today is about totally ignored, though many women still refrain from conversing with their sons-in-law, except in the case of sickness or some emergency. See also Clark, *loc. cit.*, p. 262 under Mother-in-law; and Kroeber, *loc. cit.*, pp. 10, 13. As is known, there are abundant parallels.

⁴³ It is institutional for the wife of the male relative that consented, to erect the tepee.

make our living as happy as I could for him. He was very loving to my boy by my first husband.⁴⁴

In about two years after our marriage we had a baby girl; then about two years later another girl was born, and again two later another girl was born.

In those days I was taught to nurse my children until two years old, or thereabouts. My mother used to tell me to keep my husband from having sexual intercourse with me while I was nursing my children; but to tell him to go to some other woman, for it would make my milk unhealthy for my nursing baby.⁴⁵

Whenever any of my children became sickly my mother would get an older person, either a man or a woman, to suckle my breasts to clean out all the bad milk that made my child sick;⁴⁶ and in addition she would make some tea of some weeds for me to drink.

My second husband became sick all at once, and after a very long illness, though many Indian doctors attended him, he finally died. One of my children died while very young which I think made my husband sick, as he could not get over the sorrow for a long time. He was a very kind and loving man to me and to our children. At his death my mother cut my hair off just below my ears,⁴⁷ and all of my husband's relatives did the same. As was the custom then, my husband's favorite pony, a nice black gelding, was led to his grave and shot.⁴⁸ A pole was staked at the head of his grave to which his war-shield was hung.⁴⁹

I again lived with my family, this time with a bigger number of well grown-up children. I was then determined to live single, which I did for many years when I again married in accordance with the advice of my cousin.

After I had been married for about two years, one day my husband told me I was to have a companion to help me with my home work. He said he was going to marry another woman. When I asked who it was, and learned

⁴⁴ Among the Arapaho step-fathers and step-mothers are usually very kind to step-children.

⁴⁵ All this is institutional for the Arapaho, though certainly absent in the works of Curtis and Kroeber; nor can I recall it as specifically Arapaho in other works, nor do I recall its being mentioned for other tribes.

⁴⁶ For something like this, see Kroeber, *loc. cit.*, p. 16.

⁴⁷ See above, and footnote 38 together with the references given.

⁴⁸ See Clark, *loc. cit.*, p. 41 under the article Arapahoe, Curtis, *loc. cit.*, pp. 150, 159; Kroeber, *loc. cit.*, p. 17.

⁴⁹ An item not mentioned as occurring among the Arapaho by any authorities so far as I know.

that it was my maternal grandmother's daughter I told him that I would rather that he marry her and leave me as I did not wish to be a plural wife with her.⁵⁰ He did leave me and took this young woman to his people. My cousins, the mother, and mother's sisters of this young woman invited me to their camp, and told me I should be a co-wife with her. I told them no, and that since my husband did wrong by such an entangling relationship I preferred to sever my relationship entirely from him; and in that way there would be no hard feelings towards my cousins and this woman. So I again was a widow.

I recite to you the series of my marriages in a brief way. Of course aside from the death of my two former husbands, and my baby boy, over whom I mourned a period of two years each, I was happy, having the confidence of my husbands. I had unlimited liberty with my relatives and former chums when I visited them. I was always at liberty to attend anything that was going on in the tribe, such as hand-games at night.⁵¹ These would last all night sometimes. And there were stick-dart games among the young women.⁵² I was one of the few who were known as one who threw the darts farthest. Once at a large Cheyenne and Arapaho camp, we were approached with a challenge by a party of young Cheyenne women to throw darts for keeps. After we agreed to accept the challenge we bet our brass bracelets, silver rings, earbobs, sashes, and even our shawls. It was a one-sided game, as two of us Arapaho girls were always far ahead making first and second for our side. On my dart was a nice polished tip of a buffalo-calf horn that my paternal aunt had given me when a young girl, and which she also had used when she was young.⁵³ There were four on each side. We always made a mound a little higher than the mound beside a prairie-dog's hole; and we would step back from this and make a running start till within a few steps of it, and then we would throw our darts so as to glance ahead quite a way before again touching the ground after which the dart would slide a long distance. This game was mostly played along paths or bare ground or on ice or hard-packed snow. The darts had at all times to be kept very straight, like arrows. As soon as we picked them up after every throw, we had to

⁵⁰ Though not mentioned by the published authorities, this type of marriage among the Arapaho, while not disgraceful, is not a proper one.

⁵¹ An unmarried girl would not be at liberty to attend a handgame, etc. unless accompanied by her mother or some other woman who was trusted by the girl's mother. For the hand game, see Culin, *loc. cit.*, pp. 267, 268; Mooney, *The Ghost Dance Religion*, pp. 1008, 1009. Though not mentioned by Curtis as occurring among the Arapaho, see his *Atsina*, p. 152.

⁵² See Culin, *loc. cit.*, p. 400, Mooney, *loc. cit.*, pp. 1007, 1008.

⁵³ This gift is institutional for a paternal aunt among the Arapaho, it would be uncommon for a maternal aunt to make this gift to her niece.

examine them to see that they did not bow. If no horn was used at the ends they would soon split, or would fly awry. Some had nice darts, painted, and some carved. If they were the right weight they were better to throw. My darts were always plain, but had good weight, and were very straight.

The foot-bouncing ball game of girls was another game played very much.⁵⁴ This was played by standing on one foot and bouncing a soft stuffed ball on the instep of the other foot. The game was the highest count with the ball not touching the ground. I was not so good at this, but some of my girl friends were good kickers. Some of them would never miss, but quit kicking of their own accord. Here and there in the camp the girls would gather and play the foot-bouncing ball game.

And there was the arm muscle and palm ball game. This was usually played by bouncing a smaller ball from the arm muscle to the palm of the hand by bending and straightening either arm; the highest count won.⁵⁵

Now I shall tell you of my last marriage; but this time I was a well matured woman. My father and mother were still living. As usual I was married by the consent of my relatives, to which I agreed, knowing the need of a man companion in many ways, not only for my own reasons but for the good of my aged parents. After this marriage I again lived a happy life independent, as usual, to do as I liked through the best years of my life. By my last husband, who died eight years ago, I had four children,⁵⁶ three boys and one girl. One of the boys is still living, and he now has several children. For thirty-five years my husband and I lived a contented life. I do not recall that he ever scolded or mistreated me. He was one of the tribal chiefs, and also a brother leader of one of the young men societies.⁵⁷ They were very fond of him because of his good nature and joking disposition. He was also

⁵⁴ This game is usual for unmarried girls or women, though sometimes it is played by older women, especially when gambling for "keeps." For the game see Kroeber, *loc. cit.*, pp. 394, 395; see also Culin, *loc. cit.*, p. 705 for the Cheyenne (not given for the Arapaho).

⁵⁵ This particular game does not seem to be recorded by Culin or other authorities for the Arapaho. I do not know the distribution of the game.

⁵⁶ See notes 2 and 36 and the references given therein.

⁵⁷ See Clark, *loc. cit.*, p. 355 under Soldier, Curtis, *loc. cit.*, pp. 144, 159; Kroeber, *loc. cit.*, p. 151, *et seq.*; Mooney, *The Ghost Dance Religion*, pp. 986-989; Hayden, *loc. cit.*, pp. 325, 328. The list given me by Rowledge corresponds exactly to the order given by Kroeber, being the equivalent of numbers 1-6 inclusive of Men's Ceremonies; and consequently agrees with the first six of Mooney, who agrees in the last two (numbers 7 and 8) with Kroeber. Neither Kroeber nor Mooney mention or discuss the list for the Southern Arapaho given by Clark, whose list contains some true variations, but not many, nor important: I regret that I did not note these discrepancies in time to harmonize them if possible. Clark's list for the Northern Arapaho, *loc. cit.*, p. 41, also not discussed nor mentioned by Kroeber and Mooney, does not entirely agree with his list for the Southern Arapaho.

noted as one of the Indian doctors;⁵⁸ and I am still respected because of him.

My son by my first husband is also living; he also has several grandchildren. My daughter by my second husband is also living, and she also has a grandchild.

I have always been a very early riser, and bathe often. I have never taken any of the white man's medicine, except salves and cough syrup. I have always eaten mostly meat, either dried or fresh, which was the principal diet of my parents and the rest of the tribe. At present I still enjoy good health; only my eyesight is now somewhat dim.

I have refrained from mentioning private personal experiences both during the time I was single and also married, solely out of respect to my brothers and male cousins.⁵⁹

As I said, I wanted to be positive that it was permissible for me to tell of the sacrifice of my finger, and since it is, I will tell of it. It was this way. After my sister had been married several years and had had several children, she became sickly. Realizing the responsibility I was facing in the custody of her children in the event of her death which seemed evident by the failure of two of the best Arapaho doctors after periodical gifts for their services, I unhesitatingly made a vow to sacrifice my left little finger, so that my sister's life might be spared,⁶⁰ so that her small children, who were a pitiful sight to me as they were about their helpless mother, might again enjoy happiness with their mother, and so the rest of us would be relieved from the impending sorrow, especially my father and mother who thought so much more of this daughter, as she always was somewhat frail. The next morning an Arapaho woman⁶¹ was called to remove my finger in the usual way. She told me that since I was slender this wound would heal rapidly,⁶² which it did. My sister commenced to get better, improving very quickly. She became hungry for deer meat. The young men went out and brought deer that they had killed; they brought turkey and beaver, which my sister ate, getting back her strength very rapidly. After a short time she was again well and happy with her children, which made us all happy again. At the time I made the vow my father expressed his gratitude very forcibly, and

⁵⁸ About one quarter of the Southern Arapaho still go to Indian doctors at the present time (1932).

⁵⁹ This respect is institutional.

⁶⁰ Though not stated, the sacrifice is to the sun. See G. A. Dorsey, *Arapaho Sun Dance*, pp. 186, 187 for the sacrifice of the little finger by a woman to ensure that her husband might return victorious from war.

⁶¹ It is usual that one who cuts off the finger shall be of the same sex as the sacrificer.

⁶² An institutional belief among the Arapaho.

praised me for my thoughtfulness. I had just one thought, and that was that my sister was going to recover.

This sister, who was several years younger than I was, died six years ago. I am now the only one of the family living, although my brothers and sisters were younger than I. I have many grandchildren and several great-grandchildren. I have gone through all of the age-societies of the tribe, in accordance with the ranks of my husband. I am now very old and live with my youngest son, and have given his several children some of my lands so that they may have places to live upon and have the means to live by reason of the value of the land. I visit my female cousins here and there. Sometimes I stay with my daughter.

If I had a longer time to think of the past I would tell you more, but without previous notice, and in two or three days, this is all and the best I can tell.

In the days when we were moving about as I mentioned in my story there were no briar weeds, or stickers, or burrs; so the children as well as their parents were nearly always barefooted. All that one could see on the prairies was grass, buffalo grass, and blue stem. When camps were pitched we would make our beds on the ground with grass for under-cushions. The air was always fresh. We wore no head-shade; in fact we didn't mind the weather in those days.

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IN REREADING Sahagun's History of Ancient Mexico in the translation recently published by Mrs. Bandelier¹ I have been struck by the number of parallels between Aztec and Pueblo cultures, some of which, as far as I know, have never been pointed out.

In both cultures impersonation of the gods is an outstanding trait, impersonation by priests or by persons who play the part for one year whether as among the Aztec they are prisoners destined for final sacrifice, or as among the Pueblo they are war captains representing the war gods, or sacred clowns who are very well paid at the close of their culminating ceremony, or men designated to wear the masks of kachina rain spirits like the Zuñi Shalako. With few exceptions impersonation among the Aztec appears to have been without mask; among the Pueblo the use of masks is so prominent a trait among both annual and occasional impersonations that the rôle of impersonation without mask such as played by Bitsitsi of the Zuñi Ne'wekwe and by Muyingwa, the male corn spirit of the Hopi, by the Hopi Powamu kachina or by the Turtle dancers of San Juan or Taos, tends to be overlooked.

Whatever the origin of the Pueblo mask, there is no doubt that its efflorescence has been comparatively recent and that this was stimulated by the Spanish use of masks. Among the Hopi, certain masks are never worn and these I would compare with the pre-Conquest Mexican masks in stone or metal which were too heavy or too small to have been worn in ceremonial. The use of masks by dance impersonators I have imputed elsewhere² to Spanish influence. But now in Sahagun I find an account of a mask worn in impersonation and in the very cult where the mask flourishes most among the Pueblos—the rain god or kachina cult. At the head of the procession to the temple walked the priest of the god Tlaloc.

He wore on the head a crown shaped like a casquet, adjusted about the temples and widening towards the top; from the center of this crown rose many plumes. His face was smeared with liquid ulli (gum) which in this state is black like ink; . . . he also wore a very ugly mask with a big nose, and a mane of hair down to the waist; this hair wig was inserted in the mask.³

¹ Bernardino de Sahagun, *A History of Ancient Mexico*. Tr. by Fanny R. Bandelier, Vol. I, 1932.

² E.C. Parsons, *Spanish Elements in the Kachina Cult of the Pueblos*, ICA 23. 588-589, 596, 1928

³ Sahagun, 95. Again in the ceremony of the seventeenth month *all* the priests impersonate the gods, wearing masks. The priest impersonating the distinctive goddess of the ceremony wore a mask with two faces, one in the back and one in front, the mouths very large and the eyes protruding (Sahagun, 136). Pertinent in this connection and to the whole question of

The long hair and the black face paint are Pueblo mask traits. To my mind here is stronger evidence for belief that the kachina dance mask was pre-Spanish^{3a} than the statement of Luxán that the Tiguas used many masks in their dances and ceremonies.⁴ This statement was made in 1582 and there is a possibility that the Spanish mask had spread. Besides, Luxán does not state how the mask was actually used, and it is unlikely that he himself saw any mask, at least in use, since the Indians fled at the approach of the Spaniards.

Tlaloc, or rather the Tlaloco, the Aztec rain gods, were associated with the cardinal directions, as are the Hopi Cloudyouths or the Zuñi Uwannami, rain chiefs of the directions. The Pueblo Chiefs of the Directions are intimately associated with mountain tops as were the Tlalocs. There *are* distinctions between the Chiefs of the Directions and the kachina in Pueblo religion, but they are often obscure; perhaps two cults have merged, and the older cult, that of the Chiefs of the Directions, has been blurred by the later one, that of the kachina which has not yet spread over the entire Pueblo region.

the development of the Pueblo mask cult is the distinction at Zuñi between the priest's mask and the dancer's mask. "The Zuñi distinguish two types of masked impersonations, the katchinas, which I have called the dancing katchinas, and the katchina priests. The katchina priests do not come to dance. They never dance outdoors. If they dance at all it is before special groups, and in the kivas to the songs of other choirs. This is not considered dancing in the same sense as the dancing of the Ko'kokci or other groups who provide their own music. They come to perform certain priestly functions, to 'make the New Year,' to reaffirm the gods and bring their blessings, to initiate the children into the mysteries of the katchina cult. They are, indeed, priests wearing masks. They wear ancient masks, permanently associated with a single impersonation, which are tribal and not individual property. The impersonators are chosen either by the council or priests or by special cult groups who are the trustees of their ritual" (R. L. Bunzel, Zuñi Katchinas, BAE-R 47, 879, 1929-1930.)

The kachina priest mask is presumably the pre-Conquest, Aztec like impersonation, the kachina dancer mask being the impersonation which has experienced more directly the Spanish influence, in particular the burlesque kachina masks, Hewahewa of Zuñi, Gowawaima of Santo Domingo (L. A. White, Santo Domingo, in MS).

^{3a} Archaeological evidence for pre-Spanish use of the mask has just come to light through Dr. E. W. Haury who has studied in the Peabody Museum of Cambridge the collection made in 1887 or 1888 by F. H. Cushing from a ritual cave near Phoenix, Arizona. A ritual stick, perhaps a prayer-stick, perhaps a kachina "doll" or "baby," has painted on it an indubitable kachina mask, parti-colored, with the characteristic kachina doll ears. A bandolier is painted on the nude body. The stick suggests the encradled "baby" used by the Keres and associated with cave shrines (Noel Dumarest, Notes on Cochiti, New Mexico, AAA VI, no. 3: 141-142, fig. 3, 1920). Haury believes the Arizona cave collection is Pueblo of the thirteenth or fourteenth century.

⁴ Diego Pérez de Luxán, Journal, p. 79. Expedition into New Mexico made by Antonio de Espéjo, 1582-1583. Tr. by Hammond and Rey. Pub. Quivira Society, Los Angeles, 1929.

The rain chiefs of the Directions (Uwannami of Zuñi, Cloud youths of the Hopi, Shiwanna of the Keres, Liwane of the Tanoans) are to be more closely equated with the Tlalocs than are the kachina. However, in the Tlaloc cult there is one trait which is peculiarly close to a trait in the kachina cult—curing for certain diseases. Curing by the kachina has been somewhat overlooked until recently,⁵ and just why they are called upon to cure is not known. I think the following passage from Sahagun is highly suggestive.

All prominent mountain peaks, especially such around which rain clouds will gather, they imagine to be gods. They also thought that certain diseases which are due to the cold or inclement weather came from the mountains, and that these mountains had the power to cure them. Therefore, all those who became ill of such diseases [rheumatism, paralysis, blotches] made a vow to offer a feast and offering to such and such a mountain closest to which they happened to live, or to which they were most devoted.⁶

The Hopi practice of having a dance (a kachina dance or water serpent dance-ceremony) when there is sickness in the family⁷ is a pretty close parallel to this Aztec "vow." It is a common Aztec-Pueblo attitude that those who cause a disease also cure it.⁸

Aztec curers or curing groups—Sahagun is obscure on their organization⁹—were distinct from the priests or priesthoods, as Pueblo, notably Zuñi, shamans or curing societies are distinct from the priesthoods or rain chieftaincies; but this matter of organization among the Pueblo has been very much complicated by inter-Pueblo borrowing and is too intricate to go into here. Suffice it to say that there is a trend towards separation of functions among both peoples. I surmise that ideologically in both cultures if a supernatural cause the disease, his priest is to be called upon to cure it; if a witch cause it, another witch or doctor will be called upon to cure. Aztec curers extracted worms and small pebbles,¹⁰ just as do Pueblo curers, and probably in the ways the Pueblos do, by brushing with feathers and by sucking. Although Sahagun does not specify what he means by extracting, it seems fairly certain that it was by one or both of these ways—Zapotecas

⁵ E. C. Parsons. Hopi and Zuñi Ceremonialism, AAA-M 39: 13, 1933. See Zuñi Katchinas, 1009, 1083-1084.

⁶ Sahagun, 45.

⁷ Hopi and Zuñi Ceremonialism, 13.

⁸ Sahagun, 35.

⁹ He fails to state, for example, who function as curers for the mountain-sent or Tlaloc diseases. Presumably the Tlaloc priests do.

¹⁰ Sahagun, 27.

and Mixtecas today cure by sucking out deleterious objects,¹¹ as do the Cora and Huichol, and all these peoples were in contact with the Aztec Cora and Huichol also brush with feathers.¹²

The Aztec had various ideas about the after-life, as have the Pueblo: but Tlalocan, the home of the rain gods, may be equated with the "earthly paradise" of the Pueblo, with Wenima, in describing which Father Dumarrest uses almost the same terms as Father Bernardino.¹³ To Tlalocan go persons killed by lightning, those who are drowned, the lepers, those afflicted with pustules, the mangy, the gout-stricken, and those with dropsy.¹⁴ Now among the Pueblo there are hints that not all the dead become kachina. A heavy rainstorm after a man's death indicates that he has become a kachina.¹⁵ the rain-priests of Zuñi have more to do with rainfall after death than the ordinary dead; within priesthoods and curing societies special prayer-sticks are made for the deceased members, suggesting that they have become spirits distinct from the dead at large: the prayer-stick for the dead is distinct from the prayer-stick for the kachina. In Pueblo burial, distinctions are made between ceremonialists and non-ceremonialists. At Isleta the deceased ceremonialist has ritual performed for him by his ceremonial group. In general the faces of deceased ceremonialists are painted as in life and some of their paraphernalia may be buried with them. At Zuñi a man's personal mask is buried (apart from his body) and the corn fetich or "mother" of the curing society member is buried. Presumably these things are to be used after death, their owners continuing to function after death as in life.^{15a} Now let us return to the Aztec who went to Tlalocan. They were buried, not burned. Wild amaranth seeds were put on their jaw (this no doubt was food for their journey): blue¹⁶ paint was put on their forehead with cut-up papers; other papers were put behind the head; a cane was placed in one hand (this, too, probably for the journey—see p.619).

¹¹ E. C. Parsons, Curanderos in Oaxaca, Mexico, *Scientific Monthly* XXXII 60-61, 1931.

¹² E. C. Parsons, Field notes on Cora and Huichol, MS.

¹³ Wenima is a place of beautiful mountains, of pine and trees of all kinds, of lakes and meadows. Here are two kivas where the Shiwanna guard their flashes of lightning. Dumarrest, 173.

¹⁴ Sahagun, 193. Inferably all these diseases proceed from the rain or water spirits—from Lightning, Water serpent, Mountain rain spirits (gout being identified with rheumatism).

¹⁵ Dumarrest, 174; E. C. Parsons, Notes on Ceremonialism at Laguna, *AMNH-P* XIX, pt. IV, 87, n. 2, 1920.

^{15a} Cf. E. C. Parsons, The Social Organization of the Tewa of New Mexico, *MAAA* 36, 131, 1929.

¹⁶ Blue-green is associated with Lightning by the Zapoteca, as it is associated with the kachina by the Pueblo.

Sahagun gives no explanation for the special treatment of these persons, but as their spirits are bound for Tlalocan it is extremely probable that they are to become rain spirits. The Tlalocs are impersonated by their long-haired priests. My guess is that both priests and the afflicted who have been treated by these priests become Tlalocs. If so, we have here several elements of the Pueblo curing society, particularly the society engaged in curing for lightning shock or for skin disease.

The concept of the drowned becoming rain or water spirits calls for special discussion. Among modern Nahuatl-speaking communities wells (springs) or tanks are believed to be haunted or lived in by water spirits. In Ixtipálapan, probably the most Aztec of all the suburbs of Mexico City, I heard of a fish youth coming out of a well to court a girl, to whose parents he gave a little carp of gold. After being married at the well by the *cura*, the couple sank down into the water.

We recall the Zuñi-Hopi tales of the Horned water serpent who seduces maidens¹⁷ and to whom when he sent flood a girl and a boy were sacrificed.¹⁸ This flood-sending serpent has been found among the Mayo-Yaqui¹⁹ and among the Zapoteca,²⁰ where he is also a horned serpent and lives in springs or wells and rivers and receives offerings. The chief suggestion of human sacrifice among the Pueblo is in association with the Horned water serpent or with pools²¹ and we can but think that it is an echo from the south.²² Possibly the incident in the Keresan tale of the competing Earth Mothers, where Younger Sister takes out the heart of Older Sister²³ is another echo, an even remoter echo. There are other Pueblo tales of taking out the heart, substituting a good heart for a bad one, and the Hopi have a tradition about burying the heart of a human enemy.

¹⁷ E. C. Parsons, *Tewa Tales*, AFLS-M XIX 194-195, 214-217, 1926.

¹⁸ E. C. Parsons, *The Origin Myth of Zuñi*, JAFI 36. 161, 1923. Note too that in Zuñi myth the kachina were the children who drowned in crossing a river.

¹⁹ Ralph L. Beals, *Ethnology of the Mayo-Yaqui Indians*, MS.

²⁰ E. C. Parsons, *Mitla and other Zapoteca-speaking pueblos of Mexico* (in press).

²¹ Dumarest, 209, f.n. 2; E. C. Parsons, *Isleta, New Mexico*, BAE-R 47: 366-367, 1932; *Tewa Tales*, 103.

²² We recall that the tradition of the drowned children occurs among Pima and Papago. E. C. Parsons, *Notes on the Pima*, 1926, AA 30: 463. 1928; Papago, personal communication from Dr. Ruth Underhill.—When I speculate about the sacrifice of turkeys or of turkey feathers by various Mexican and New Mexican peoples as analogous to human sacrifice, I recall the Hopi tale of the old couple who were not drowned in the flood but were changed into turkeys (JAFI 36: 161, f.n. 2). Bird sacrifice should not be overlooked among our parallels. The Aztec sacrifice quail, the Hopi, eagles. Possibly the Pueblo offering of turkey feathers (to the dead and the kachina) has been a substitute for such turkey sacrifice as is general in southern Mexico and in Guatemala. Note that the Zuñi Scalp chief deposits wing feathers of the male turkey

Here I am tempted into an hypothesis on the still unexplained facts of human sacrifice among the Aztec, an hypothesis suggested by Pueblo scalp ideology and ritual. Pueblo scalp ceremonial was an initiation of the dead enemy into the tribe in order that he might become a rain-maker, a potent rain spirit to aid his adoptive people. (At Isleta the scalps also cure toothache and give warning of the approach of enemies.)^{23a} I suggest that the Aztec treatment of captives was homologous, at least in the case of those who were considered impersonations of the god. They were treated as impersonations before death because after death they were to join the gods, become gods.²⁴ This may have been the starting point, the cell which later took on the cancerous growth which so differentiated the Aztec from other Indian cultures. Child sacrifice to the mountain rain gods would seem to have been part of such later development.²⁵

Apart from human sacrifice, Pueblo or northern war ritual is found among the Aztec. We may compare the impaling of heads on poles²⁶ with

with the food he offers to a slain Navaho His apostrophe to the turkey cock (R. L. Bunzel, *Zuñi Ritual Poetry*, BAE-R 47: 677, 1929-1930) indicates that the wing feathers represent the whole bird.

The Hopi, like the Aztec, ate dog, and Stephen reports one instance of a dog's head being offered with other food sacrifices to the Hopi god of death and fire. The dog was killed by the clowns who not uncommonly kill dogs, "play" which once may have had a sacrificial character. The Hopi Dog kachina indicates a belief in spirit dogs, as does also the existence on First Mesa of a Dog "house" or shrine.

²³ Dumarest, 215.

^{23a} At Zuñi one function of the scalps is divination.

"He has become one to foretell

How the world will be

How the days will be." (*Zuñi Ritual Poetry*, 680)

²⁴ Sahagun practically states that for them a future life was expected. When the women to be sacrificed burned their clothing, jewels, chests, spindles and weaving sticks it was said "that all these (jewels) would be given back to them in the other world after their death" (p. 126). Captives were actually adoptive in the warrior's family (Sahagun, 77).

²⁵ However, Pueblo lore about the children who drown and become kachina and the lore about the mountain-dwelling spirit who captures children to devour come to mind. These bogey or monster masks among the Hopi, the Natashka, Fewkes has compared with coyote impersonations among the Aztec (On Certain Personages who appear in a Tusayan Ceremony, AA VII: 32-52, 1894).

Possibly the offerings at Isleta and Taos to the still-born or the child dead point to an early practice of child sacrifice. Isletans used to hide their children in covered jars or in the house walls against the arrival of the mountain giant who came into town with the mountain rain spirit, and it is said that the bones of children are to be found near the cave in the western mesa where the bogey lives.

²⁶ Sahagun, 55, 126

the scalp pole, noting that in Hopi tradition taking a head²⁷ is mentioned more often than taking a scalp, and that the Natashka masks pretend to cut off the head of a captive.²⁸ Cutting off the head (as well as cutting out the heart and other organs) occurs also in Zuñi and Keresan myths.²⁹ The Aztec danced with the head; the Pueblo danced around the scalp pole. The Laguna scalp-taker had to wear a piece of the skin of the victim until the close of the scalp dance,³⁰ which suggests an Aztec practice. Heads (before decapitation) or scalps are fed.³¹ Heads or scalps are kept in a temple or house (shrine).³² (The scalps taken in Xippe's ceremony were kept in private houses "as a relic.")³³ In both cultures arrows are offered to the war gods,³⁴ miniature arrows at Zuñi, and we may note that in Mexico the diminutive offering is a very marked trait.³⁵ Mutual taunting by the old women and the young men and warriors is another Aztec-Pueblo war trait.³⁶

The ritual of blood sacrifice³⁷ is so conspicuous and so dominant among the Aztecs that it tends to obscure comparison between the Aztec and other Indian cultures lacking^{37a} the blood complex; nevertheless between the Aztec and the Pueblo there are many ritual similarities. Fasting and continence are both Aztec and Pueblo traits and such abstinence is observed for four ritual days, a "retreat" which concludes with the dance on the fifth day.³⁸ Fasting may consist of one meal a day, or certain ordinary food elements

²⁷ Tewa Tales, 184, 226, 231, 232, 277.

²⁸ A. M. Stephen, *Hopi Journal*, CU-CA, 1934 (in press).

²⁹ E. C. Parsons, *Zuñi Tales*, JAF 43: 11, 43, 1930; F. Boas, *Keresan Texts*, AES-P VIII, pt. 1: 8, 1928.

³⁰ Notes on Ceremonialism at Laguna, 122.

³¹ Sahagun, 126. Food is put into the mouth of the corpse by old women, among the Aztec. At Isleta two women feed the scalps (Isleta, New Mexico, 257-258).

³² Sahagun, 148-149.

³³ Sahagun, 52, 74, 75.

³⁴ Sahagun, 123.

³⁵ It is characteristic of the ancient Tlaxcalans (F. Starr, *Notes upon the Ethnography of Southern Mexico*, Proc. Davenport Acad. of Natural Sciences VIII: 117, 1899-1900) and Tarascans (F. Starr, *The Little Pottery Objects of Lake Chapala, Mexico*, Dept. of Anthro. Bull. II, Univ. of Chicago, 1897), and of the Zapotecas among whom to this day it survives. Sahagun describes (p. 134) miniature plates, boxes, and gourd cups for tiny offerings of food and drink to the mountain or rain spirits whose shrines were at the edge of the water. Here is a clue to the presence of the Tarascan miniatures in the waters of Lake Chapala.

³⁶ Sahagun, 81; Stephen.

³⁷ I use the term in the familiar sense, but, as we have been suggesting, it is far from certain that this expresses the Indian attitude; and see below.

^{37a} Or almost lacking. In the prayers of the Zuñi scalp ceremony the blood of the enemy is referred to as "adding to the flesh of our earth mother" (Zuñi Ritual Poetry, 680, 687).

³⁸ Sahagun, 35, 36, 53, 64.

may be omitted like lime in cooking corn (Aztec) or chili (Aztec) or salt (Zuñi, Hopi). Variations are played upon ritual abstinence among both Aztec and Pueblo.³⁹ The periods of taboo may vary; they may precede or follow the ceremonial. Comestibles may be served or dressed in special ways or eaten formally, e.g., by four mouthfuls. When the continence taboo is broken, venereal disease results or the mask will stick to the face.⁴⁰ In both cultures, exorcism⁴¹ is expressed by spitting and throwing from the hands,⁴² by the use of ashes, and by bathing, to wash off ritual paint,⁴³ etc.; offerings are made of bread "fashioned into diverse figures"; food offering is thrown into the fire;⁴⁴ food is offered to fetiches;⁴⁵ blood is smeared on their mouths;⁴⁶ corn meal is strewn;⁴⁷ popcorn is used ritualistically;⁴⁸ as noted, miniature offerings are in vogue,⁴⁹ there is an offering of incense or tobacco-filled canes or cigarettes,⁵⁰ images, impersonators (or their masks) are smoked;⁵¹ smoke is swallowed,⁵² a practice referred to in Pueblo tales as a test of power, and enforced at Taos as punishment; domiciliary visits are paid by ceremonial personages to collect "alms" or food⁵³ (some of these collectors, Aztec and Pueblo, wear garlands of flowers); an anti-sunwise

³⁹ Sahagun, 148.

⁴⁰ Sahagun, 35; E. C. Parsons, *The Pueblo of Jemez*, 123, Dept. of Arch., Phillip's Academy, 1925; Zuñi Katchinas, 845.

⁴¹ It is quite apparent that Sahagun had no conception of exorcism, of ritual to overcome supernatural danger, or the bad effects of broken taboo. All such rites he calls penance or punishment. It is quite possible that ritual blood-letting was an exorcising rite rather than a penitential rite. (Note Sahagun, 131). Compare it with flagellation, which in Franciscan terms is penance, but in Indian terms is exorcism.

⁴² Sahagun, 118.

⁴³ Sahagun, 96.

⁴⁴ Sahagun, 158, 244.

⁴⁵ Sahagun, 41.

⁴⁶ Sahagun, 151, 159. At Zuñi, the blood of a deer is smeared on the mouth of the mountain lion fetich. I know of no other Pueblo instance.

⁴⁷ Sahagun, 114.

⁴⁸ Sahagun, 40.

⁴⁹ Among the eastern Pueblo miniature costumes are offered to the Sun, and very small, if not miniature, water jars are used in the rain cult. I find no suggestion of the motif of the inexhaustible or of "much from little" in Sahagun, but in Zapoteca folk tales it occurs in just the same mode as in Pueblo folk-tales.

The miniature prayer-image of what is wanted is another parallel between the Zapoteca and Pueblos.

⁵⁰ Sahagun, 39, 70; *The Pueblo of Jemez*, 122.

⁵¹ Sahagun, 157.

⁵² Sahagun, 82.

⁵³ Sahagun, 40, 41. See p. 623.

ceremonial circuit is observed:⁵⁴ there are rites of running,⁵⁵ asperging,⁵⁶ including sprinkling by mouth, and of divination by peering into a bowl of water;⁵⁷ birds are observed as omens.⁵⁸ The time it takes to kindle new fire is another common omen. In both cultures there are images of the gods, permanent or temporary.⁵⁹ The Aztec made images of the sacred mountains as the Hopi and Keres appear to do.⁶⁰ The Aztec "tabernacle of painted boards for the god's image" may be compared with the painted slat altar of the Pueblo, or possibly with the painted roof shrine of Zuñi Shalako houses. Confession "to escape wordly punishment" was an Aztec practice of which the nature was puzzling to the Catholic friar,⁶¹ just as it is puzzling to us that after a Zuñi witch has confessed, punishment does not always follow. Confession is sometimes all that the war chiefs wish.

Road-guarding by snakes is a conception that finds expression in both cultures. Stone figurines of snakes are on the Hopi war chief's altar and the stone coils in Hopi trail-side shrines probably represent snakes. Snakes, also clashing mountains, have to be braved by the hero in Pueblo folktales, and by the Aztec who dies and journeys to another world. For this journey the deceased Aztec is given credentials of paper,⁶² the deceased Pueblo, credentials of feather.

Aztec traders, travelling men, carried walking sticks or canes, solid light black canes, which they would tie in a bundle and venerate as the image of their god with food, flowers, and incense.⁶³ On returning from the extraordinary trips they made, the cane was placed in the *calpulli* or "district

⁵⁴ Sahagun, 90.

⁵⁵ Sahagun, 25.

⁵⁶ Sahagun, 44, 126.

⁵⁷ Sahagun, 27. Witches are seen (Pueblo) or see themselves (also a stone knife) (Aztec) in a bowl of water.

⁵⁸ Sahagun, 73.

⁵⁹ Compare the clay corn kernel encrusted image of the Horned water-serpent on the Winter solstice altar of the Tewa of First Mesa with the dough image of the Aztec god which is given teeth of pumpkin seeds and eyes of black beans (Sahagun, 46); and compare the tradition of the eastern Tewa that originally the image of the god of the Kossa was of dough. The prototypes of the Ne'wekwe of Zuñi and the Kashare of the Keres were of human cuticle or of the Earth or Corn Mother, i.e. of corn meal. Bread in the shape of jackrabbits and turtles is given to the Isletan clowns by their aunts.

⁶⁰ Sahagun, 61; Stephen; Notes on Ceremonialism at Laguna, 118, fig. 19.

⁶¹ Sahagun, 32-3. Here is a suggestion of why Catholic confession did not "take" among the Pueblo (Only at Isleta is there any suggestion of acculturation between Catholic and Indian confessional practices.) Formally, there may have been an opening; but psychologically there was nothing in common. See E. C. Parsons, Further Notes on Isleta, AA XXIII: 149, 1921.

⁶² Sahagun, 191.

⁶³ Sahagun, 41.

church" and later in the house shrine, where before eating the merchant offered it food. We may compare the crook sticks which are placed on Hopi altars to represent the deceased members of the society, and the crook sticks in the prayer-stick bundles, as well as the canes of the Zuñi and Isleta war chiefs. "Black cane old man" is the name used in referring to one of the Isleta war chiefs. We recall that the Pueblo canes of office are sprinkled with meal or with "holy water" and have a distinctly fetichistic character. They are placed on the altar. The Pueblos have always asserted that the war chief canes "came up with them" i.e. anteceded the Lincoln or Spanish canes or *varas*; Sahagun's account of the Aztec canes, not only the canes of the merchants but of the war chief stick,⁶⁴ seems to corroborate this tradition. I surmise that we have not only in New Mexico, but throughout old Mexico,⁶⁵ an exceedingly interesting instance of acculturation between Spanish *vara* and the walking-stick of the Aztec merchant guild and the big stick of the Aztec war chief.

The Aztec seem to have used "gum paper" very much as the Pueblo use prayer-feathers. Gum paper was tied to canes and placed around the images of the gods, as feathers tied to canes, i.e. prayer-sticks are bundled at Zuñi around the war god images. The Aztec hung gum paper around the neck of an image, just as the Hopi hang prayer-feathers. Miniature arrows and "torches," i.e. sticks of candle-wood, were placed by the Aztec on graves. We are reminded of the miniature arrows (and bows) made at Zuñi for the war gods and of the prayer-stick bundles deposited for the dead. In connection with the ritual for the dead the Aztec also made a feather-stick or cane, making small bundles of white feathers of the heron, tying two and two together and gathering the threads of these bundles and fastening them to the cornstalk cane. These Pueblo-like "prayer-sticks" were carried to a stone pile where, according to a non-Pueblo pattern, they were burned.⁶⁶ The Aztec attached feathers to the tips of feathers⁶⁷ as do the Pueblo, and in both cultures feather down is used in ritual. The crook stick of Quetzalcoatl⁶⁸ and the befeathered stick of the impersonator of the Salt goddess⁶⁹ remind us of the ritual staff of the kachinas; and the ritual shields of the Aztec remind us of the shields used by the Hopi impersonators of the gods in the Winter solstice ceremony.⁷⁰

Here I cannot forbear remarking that the Hopi use of clan designs on the backs of racers, their petrographs of kachina masks and probably other

⁶⁴ Sahagun, 197.

⁶⁵ E. C. Parsons, *The Canes, Mexican Folk-Ways VII*: 81-86, 1932.

⁶⁶ Sahagun, 124.

⁶⁷ Sahagun, 97.

⁶⁸ Sahagun, 26.

⁶⁹ Sahagun, 97.

⁷⁰ Stephen.

petrographs, and certain conventional designs for rain, clouds, and lightning are not very far removed from Aztec picture-writing. To explain to me what my newly acquired Hopi name meant my "father" drew me the cumulus cloud and falling rain "glyph" familiar in all the Pueblos. Had the Hopi wanted to make historical records of persons or periods or tribute they would have produced in style something much closer to Aztec glyphs than let us say the historical records of the Plains tribes.

Our list of Aztec-Pueblo ritual similarities is impressive. It might be even more so could we get from Sahagun a better impression of how the Aztec rites were weighted, how much, how frequently, they occurred. But Sahagun of course was not looking for ritual patterns; a single reference to the strewing of corn meal or to the ceremonial circuit suffices. Nevertheless, from his particulars, which are given for the most part very objectively, we get a general impression of Aztec ritual, blood sacrifice always apart, and I may add rites of intoxication, as strikingly similar to Pueblo ritual. Even when details vary, their general character appears the same, highly conventionalized and without patent explanation. Compare the "game" of the priests who after circling the fire holding hands run down the temple steps and, letting go of each other's hands almost forcibly, fall headlong or on one side,⁷¹ compare this with Koyemshi ritual "play." The arrow-shooting at a maguey leaf during the ceremonial of the fourteenth month⁷² also recalls the ritual games of the western Pueblos. Compare the account of the rite in which the Aztec rain priest touches with a small hook four small balls of the stone called chalchivites, making each time a motion as if to withdraw his hand, then turning around and then again touching one of the four pellets, concluding with sprinkling incense and rattling a board with jingles, compare this with the Hopi rite of "casting down greasewood" at the conclusion of Niman, the Farewell kachina ceremony. The fourfold feint occurs in both rites, but that is not the point of my comparison; rather is it the general character of the two rituals, their precise, elaborate, and yet apparently meaningless character. Either ritual might be called Aztec or Pueblo, and apart from the accidental traits one would not recognize the substitution.

Now let us note a few ceremonial fragments which may be specifically compared. The new fire, drill-made, is carried out from the temple of the Aztec Fire god⁷³ as it is carried out from the Hopi kiva where ritual has been performed for Masawa, god of Fire. Like the Aztec "old men," the Hopi chiefs throw their offerings into the fire. In both cultures this ritual is performed at a ceremony which features tribal initiation, and, as we

⁷¹ Sahagun, 120.

⁷² Sahagun, 123.

⁷³ Sahagun, 65, 138.

shall note again, this ceremony was one of those annual ceremonies which among both Hopi and Aztec were performed more elaborately every four years. For both cultures it happens to be the last ceremony of the year. At Zuñi new fire is made at the New Year or Winter solstice ceremony. At the Aztec and Hopi ceremony, initiates are carried on the backs of their "god-fathers" (as they are also carried at Zuñi initiation, part of which is performed also at the final ceremony of the Zuñi year). The Hopi initiation occurs in the same kiva in which the new fire is made. In both the Aztec and Hopi ceremony there is a special dance by the "lords" or "old men" (Wöwóchimtu).

The last five days of the Aztec year were called "idle" days; they did not work during these days because they were considered unlucky, and they refrained from quarreling.⁷⁴ Refraining from quarreling at set ceremonial times has a decidedly Pueblo ring; and in Pueblo terms these idle days would be called "staying still," taboo periods found at Zuñi, at Isleta, and at Taos. The concept of the dangerous moon, December, among the Hopi, is probably an expression of a similar way of thinking.

In what appears to be an early harvest ceremony among the Aztec, ears of corn were sprinkled with oil, wrapped in "paper" and bundled on the back of virgins to be carried in procession to the temple of the Corn god and the goddess of sustenance (food plants). This was the seed corn.⁷⁵ Compare the baskets of seed corn carried in procession by the Hopi maidens and youths in the Powamu ceremony. It is called woman's corn and is supposed to yield very abundantly.⁷⁶

At this Aztec harvest ceremony as well as at other ceremonies men and boys make domiciliary calls and are given food.⁷⁷ We recall the house to house visitation by the Hopi meal gatherers⁷⁸ and by the Natashka masks, and food-collecting by the Taos Black Eyes or by the Zuñi Koyemshi, and the giving of food to dance groups who go from house to house at various fiestas throughout the eastern pueblos. Some of this ritual visitation is indubitably Catholic custom, e.g., the visits by the boys on All Souls, the day of the dead, at Zuñi; but with the Aztec practices in mind the whole complex of visitation must be considered from the point of view of acculturation.

Pole-climbing is probably another acculturative matter. The Aztec climbed the ceremonial pole by ropes,⁷⁹ as I have seen it done by the Zapo-

⁷⁴ Sahagun, 66.

⁷⁵ Sahagun, 81.

⁷⁶ Stephen. Note too that the Hopi place seed corn on the altar for a blessing. Cf Sahagun.

54.

⁷⁷ Sahagun, 80, 92-3.

⁷⁸ Stephen.

⁷⁹ Sahagun, 111-112.

tecas who also grease the pole. At San Ildefonso and at Taos the pole or tree is not greased. Possibly greasing is a European feature. Scrambling for the things thrown down from the top might appear to be European—it is not done by the Pueblo—were it not a marked trait in the Aztec pole-climb. Curiously enough there is no record of pole-climbing among the western pueblos.

Ducking in water for ritual negligence was an Aztec practice,⁸⁰ as it is today at Isleta,⁸¹ at Laguna,⁸² and at Taos. Little Zuñi boys are sometimes taken to the river as a disciplinary measure by Atoshle kachina and a Koyemshi.

In the fourteenth month of the Aztec calendar, in November, preliminary to festival in honor of the Otomi war god, there was held a ceremonial hunt, a surround,⁸³ which may be compared with the communal hunts held before ceremonies by the Pueblo.

The winding in and out dance by two women and a man or two men and a woman in an Aztec war dance⁸⁴ is suggestive of the Keresan war dance. In the Zuñi Scalp ceremony the scalp-taker, his "older brother," and others come dancing into the court. Although details vary, I am strongly reminded of the general picture in reading Sahagun's accounts of the Aztec warriors who dance in procession with their captives. In fact the entire Zuñi celebration if described in Sahagun's terms would read curiously like an Aztec ceremonial.

In an Aztec rain dance held every eight years, snakes and frogs were swallowed alive, men swallowing them as they danced.⁸⁵ In the Hopi Snake ceremony snakes are held in the mouth, and there is a tradition that formerly the snakes were swallowed.^{85a} Possibly the clever juggling feats with live snakes which Espéjo reported at Acoma included some such performance, for between the Hopi and the early Keresan snake ceremonies there were undoubtedly associations.⁸⁶

There are in Sahagun a few references to clowning or burlesque, which is so prominent a trait in Pueblo ceremonialism and which is found throughout modern Mexico in connection with folk-dances. The most striking Aztec instance occurs in rain god ceremonial after the lake sacrifice of human hearts, precious stones, and ritual paper.

⁸⁰ Sahagun, 56, 93-4, 148.

⁸¹ Isleta, New Mexico. 322-333.

⁸² Notes on Laguna Ceremonialism, 126

⁸³ Sahagun, 124-125.

⁸⁴ Sahagun, 107.

^{85a} Stephen.

⁸⁵ Sahagun, 147.

⁸⁶ Stephen

One of the priests took an incense burner and, acting like a poltroon (or even fool), placed on it four papers . . . set fire to them and made the motion of offertory, while they were burning . . .⁸⁷

This appears to be a burlesque of a most sacred rite, quite in the Pueblo manner. Other instances of Aztec clowning also suggest Pueblo parallels. On top of the Aztec temple where the pole was climbed danced a buffoon dressed like a squirrel.⁸⁸ The dance on the roof tops by the Zuñi Koyemshi is referred to as a squirrel performance. In the Aztec rain ceremony of every eight years there were impersonations of "poor people," wood-carriers and peddlers, and sick persons, which remind us of the improvised comedians of the Hopi called Piñtüyakyamû.⁸⁹

It was the Aztec belief that in this rain ceremony

all the gods were dancing, and therefore the dancers were dressed in diverse fancy costumes, some impersonated birds, others different animals; some represented the bird called 'tzinitzcan,' others butterflies, some dressed like drones, others like flies, still others like beetles.⁹⁰

This certainly sounds very much like kachina dancing, without masks. The Pueblo, by the way, have a Bee kachina.

In another Aztec ceremony there is mention of a "frightful mask"⁹¹ taking part in a sham battle between the priests (the mask is on their side) and the young townsmen or warriors. It reminds us of the fight with the kachina performed at Acoma,⁹² which has an extraordinarily bloody character for a Pueblo ceremony. Through blood-filled bladders the kachina impersonations appear to meet a bloody death. Another expression of killing the god is met in the Hopi dramatizations of killing Masaúwüh.^{92a}

In the Zuñi ceremony of Ololowiskya, which at Laguna opens the hunting season, there is not only a general Aztec character but particular resemblances—impersonation, flute or trumpet playing, and a form of

⁸⁷ Sahagun, 96. This burlesque or clowning in connection with human sacrifice suggests interesting speculation about early functions of Pueblo clowns. Their contemporary policing function hardly accounts for the dread they inspire. Besides, they are priests of the gods of water, the gods to whom human sacrifices would have been made by the Pueblo, if made at all.

Note, in this connection, that at the Taos Deer dance the Black Eyes give bits of raw venison to the "Corn" dancers.

⁸⁸ Sahagun, 150.

⁸⁹ Stephen.

⁹⁰ Sahagun, 146.

⁹¹ Sahagun, 132.

⁹² Leslie A. White, *The Acoma Indians*, BAE-R 47: 88-94, 1929-1930.

^{92a} Stephen.

eating the god—balls of meal which has been ground by kachina maids and moistened with the make-believe urine of the kachina impersonation are given to the lookers-on.⁹³

So much for parallels in ceremonial. With one surprising exception it has been out of the question to equate larger ceremonial complexes, i.e. ceremonies, or ceremonial calendars. Ceremonies and ceremonial calendars differ very widely even among the Pueblo. They must have differed very widely also among the Nahuatl-speaking peoples and even among the Aztec towns, a matter that Sahagun merely hints at in referring to distinctive divinities in different localities.

The exception is the Koko awia or Shalako of Zuñi and the ceremony of the Aztec twelfth month, Teotleco. Here there are so many points of resemblance in the ceremonial complex that some equation has to be made. In both Zuñi and Nahuatl the name of the ceremony refers to the arrival of the gods who are "said to have gone to other parts."⁹⁴ The first god to arrive in both ceremonies is a "bachelor" or virgin god. (Because of his virginity he walks faster, say the Aztec. The older gods arrive the following day. The Hopi refer to their Ahulani kachina as moving slowly because he is such an old, old kachina).⁹⁵ The Aztec made a mound of corn (? meal) which was watched over-night by the head priest to see when the gods made a footprint in it in token of arrival.⁹⁶ The Zuñi make two mounds of sand covered with meal which is also watched for omens,⁹⁷ and, possibly, for the coming of the gods because a "road" of meal leads to the mounds. Should a Shalako impersonator fall in the running ritual he would be exorcised (or punished as Sahagun would say). Running ritual and a taboo against stumbling or falling⁹⁸ are Aztec traits. In the Aztec ceremony there is a midnight drinking party, which was not uncommon in other ceremonials. In the Zuñi ceremony there is also a midnight feast, which is uncommon, in fact unique, in Zuñi ceremonialism, and, curiously enough, before prohibition enforcement there was much drinking this night, non-ritualistic drinking, but drinking which would not have been tolerated at other

⁹³ Summer and Winter Dance Series in Zuñi in 1918, UC-PAAE, Univ. of California 17, no. 3: 197. Cf. Sahagun, 176.

⁹⁴ Sahagun, 60.

⁹⁵ Stephen.

⁹⁶ Sahagun, 60-61. There is a hint here of the nagual belief which survives among the Zapoteca and other peoples of Oaxaca. At the birth, ashes are strewn around the house at night and tracks are looked for to determine the animal (possibly also the Lightning) familiar or guardian spirit.

⁹⁷ E. C. Parsons, Notes on Zuñi, Pt. I, AAA-MN, no. 3: 188-189, 1917.

⁹⁸ Sahagun, 90.

ceremonies. The Aztec made a fire around which danced "certain young men disguised as monsters." When Shulawitsi comes in in the Zuñi ceremony he kindles several large bonfires at which their dance is performed by the Sayatasha group. Their horned masks might be described as monsters better than the single figure described by Sahagun as a man with face painted black and white, with a switch of long hair and feathers and a crown on his head and with feathers and a dried rabbit on his back. The Aztec fires were for human sacrifice; the Zuñi fires are "to feed the clouds." One of the Aztec gods was the fire god; the Zuñi virgin god is the so-called little fire god.

The Hopi also celebrate Shalako, as a loan ceremony from Zuñi, although there is said to be a "native" Hopi Shalako ceremony. One element of the Shalako, the coming and going of the gods, is expressed in other Hopi ceremonies, in the Niman or Farewell Kachina ceremony and in the Kachina Return dances.

Another Aztec trait that is expressed in Shalako, and, as noted, in the Horned water serpent ceremony of the Hopi and in Hopi Kachina dances, is the entertainment of the god in private houses, by non-sacerdotalists. The god is offered a celebration.⁹⁹ There are still other Aztec traits we may note in Shalako. The impersonators of the gods serve for a year, and some of them are referred to during their services by their god's name. For example, the impersonator of Sayatasha will be called Sayatasha in the daily familiar speech of the townspeople.¹⁰⁰ When the Shalako masks leave town it is said they are struck at and thrown down, which is suggestive of the killing of the god. This ritual no white has ever been allowed to see. The Shalako are or were thought of as warriors (in Aztec terms, prisoners of war), for in their belts they carry war clubs. The attachment of feathers to the blanket costume of the Shalako, a very elaborate arrangement on First Mesa, suggests an Aztec technique. Finally we note that one of the Shalako day counts is by ten, an Aztec and *not* a Pueblo count.

There are a few general calendrical similarities as well as dissimilarities which we may note, particularly between Hopi and Aztec. The Hopi like the other Pueblo have a calendar based on both lunar and solar observations, the moon's phases being observed, and sunrise and sunset being noted by points on the horizon for a solstitial horizon calendar. Lunar and solar observations are inferred by Spinden to have been the basis of the early Maya calendar and so presumably of the Aztec calendar. But the Maya-Aztec developed a day count never achieved by the Pueblos, who "count

⁹⁹ Sahagun, 69.

¹⁰⁰ Zuñi Kacinas, 962; see also 846-847.

their days" in relation to sun or moon, but for short ceremonial periods only. The Zuñi tally string for Shalako, a count of forty-nine days, is the longest count achieved. In their historic period the Maya and Aztec disregarded the moon's phases, having eighteen months of twenty days each, a purely arbitrary arrangement for the sequence of their ceremonies, a ceremony being assigned to each twenty-day period. In Mexican and Pueblo cultures alike the divisions of the year, however they were made, were for the determination of ceremonies, for the sake of the ceremonial sequence.

If the length of a ceremony is counted from the time of its announcement, the duration of a Hopi ceremony, and of some Zuñi ceremonies, corresponds to the duration of Aztec ceremonies, only the Pueblo use a multiple of four, their favored numeral, and the Aztec, a multiple of five, their favored numeral.¹⁰¹ This variation results in a sixteen-day period for the Pueblo and in a twenty-day period for the Aztec. Possibly we have a clue here for the original substitution by the Mexicans for the twenty-day month for the lunar month. We may note that the Hopi name the days in their ceremonial day count. The names refer to the stereotype conduct of the day, just as the Aztec called the day after their interval rain god fast *molpololo*, meaning "they ate other things with the bread."¹⁰²

The performance of ceremonies in long or short forms is an Aztec-Hopi parallel, as is also the lapse of years between the performance of certain ceremonies. The Aztec had a year count to which the Pueblos are indifferent, but in timing interval ceremonies it is possible that "every eight years" or "every four years" was used as loosely by the Aztec as is the "every four years" of the Hopi-Zuñi calendars. The Pueblo are realists: they hold an initiation when there are enough individuals to initiate, or they make a rain pilgrimage in time of drought or delay a ceremony if the crops are maturing slowly. The Aztec were probably realists also, and Sahagun's calendar may be over-stereotyped.

A few more words on comparisons of pantheon. Not only the Pueblo water gods but the Corn mothers, possibly Muyingwa, the Hopi male corn god, Salt old woman, possibly Masawa, the Hopi god of Fire and of Death, possibly the Twin war gods, are to be recognized in the Aztec pantheon.¹⁰³ The description of Centeotl would serve for Iatiku of the Keresan curing society—mother of the gods, heart of the earth, our grandmother, the god-

¹⁰¹ Four is also favored by the Aztec (see p. 621). Possibly the mixed culture of the Aztec is indicated in their uses of four and five.

¹⁰² Sahagun, 147.

¹⁰³ Sahagun, 27, 53, 82, 97.

dess of the doctors. Corn mothers or maidens figure among all the Pueblo, but only the Hopi have a male Corn god, Muyingwa. Muyingwa is impersonated by a "priest" in the Powamu ceremony¹⁰⁴ quite in the Aztec mode. The banishment or departure of the Salt goddess is plainly a variant of the Pueblo tale of Salt woman who takes offense at the way she is treated and makes off in a huff to distant parts. But for the priggishness of Sahagun or of his early editors the variant would be even closer, I surmise. He refers to the incident merely as "a certain misfortune (disgrace)." The Hopi god Masawa is unique in the general Pueblo pantheon; he is almost a high god with the formidable character of an Aztec god. Even Bear is afraid of Masawa who is associated with bloody rituals. Besides Masawa, the Hopi have the Twin or Brother war gods of the other Pueblo, who remind us of the Aztec war god and his "favorite" or "sub-captain." Like the Pueblo war gods these two, Vitzilopuchtli and Paynal, were impersonated and to Vitzilopuchtli a magical impregnation story attaches, in the Pueblo style.¹⁰⁵

The Mexicans believed that the early gods died or withdrew below ground, becoming stone.^{105a} Elements of this tradition may be recognized among the Pueblo. That some of the gods or personages of the early days became stone is a general Pueblo belief,^{105b} and the Hopi idea that the gods emerge from the sipapu of the kiva would seem to be related to the Mexican idea of the gods' retirement below their temples.

The social organization of the Aztec in so far as it was based on the dedication of sons by their parents to various groups is paralleled among the Pueblos. After birth a Zuñi or Acoma or Taos boy is given to one of the kivas, the prime function of which is now ceremonial dancing, but which once, I think, had war functions; a Hopi boy is given to one of the four tribal societies of which two are or were warrior groups; even where the hereditary moiety prevails, as among the Tewa, dedication or vowing of children to special groups occurs. Social classification by wealth and birth was far more marked among the Aztec than among the Pueblo, although I think the Spanish chroniclers exaggerated by the light of their own culture, and that the classification was nearer to that prevailing today at Zuñi, where poor people are those who belong to no ceremonial groups and

¹⁰⁴ H. R. Voth, *The Oraibi Powamu ceremony*, Field Columbian Mus. Pub. 61: 98-99, 1901.

¹⁰⁵ Sahagun, 173, 176.

^{105a} Sahagun, 173; O. LaFarge II and B. Byers, *The Year Bearer's People*, 113-114, Middle American Research Series, Pub. 3, Tulane University, New Orleans, La., 1931; Nutla and Other Zapoteca Speaking Peoples.

^{105b} Stephen; *Notes on Ceremonialism at Laguna*, 101.

the rich those possessed of ritual paraphernalia and society membership. Indeed only in this way does Sahagun's account of the training of Aztec youth make sense. He states that the education of the boys was divided into two distinct classes, for sons of commoners and for sons of chiefs or old men, which can only mean priests (or doctors) who, as Sahagun himself states, held office irrespective of high lineage or wealth. The high priests were chosen for fitness "even if they should be of very low birth and of very lowly and poor parents."¹⁰⁶ How then were they ever entered in the school for chiefs and "old men" unless they were the sons of the "old men" and unless these might be lowly and poor; that is lowly and poor from Sahagun's point of view? It is a very confused statement, due, I think, to the confusion of two quite different cultural points of view. The account clears up somewhat if the difference in education and schools is thought of primarily as functional; the *telpuchcalli* was for military and political training, the *calmecac*, for sacerdotal training. In the four Hopi tribal societies there is something of the same kind of differentiation: the Agaves and Horns are scouts, patrols, errand men; the Singers and Wöwöchim are possessed of curing ritual and of certain songs and dances. Throughout the Pueblos a similar differentiation is indicated: ceremonialists (singers), those with military or police functions, and dancers, or the younger men at large.

By Sahagun's account of the training in the *telpuchcalli* we are reminded of much in the life of the kivas of the western pueblos—dance practice at night, fetching firewood (compare the initiation of the Hopi youths),¹⁰⁷ sleeping in their ceremonial building, but eating at home, communal service, military service. Military service is still indicated among the Hopi Agave and Horn societies and as I have said the kiva groupings of men at Zuñi and elsewhere may once have been military groupings, the soldiering having lapsed and the dancing developed. Incidentally I note that the Aztec fighting men wore "tufts of white plumes in their hair" and tied balls of cotton yarn to their wrists,¹⁰⁸ as Pueblo *kachina* dancers do today.

The system of communal service which prevailed among the Aztec and probably among many other Mexican peoples was undoubtedly taken over by the Spaniards to combine with their own system of town government and to develop into the political system which prevails today in all the smaller towns of Mexico as well as among the Pueblos. Among them all one characteristic Indian character tends to survive, the blending of judicial and executive offices.^{108a}

¹⁰⁶ Sahagun, 202.

¹⁰⁷ Stephen.

¹⁰⁸ Sahagun, 197.

^{108a} See A. F. Bandelier, Report of an Archaeological Tour in Mexico, 154. Pap. Archaeological Institute of America, Amer. Ser. II, 1884.

Of family or kinship organization Sahagun tells us little or nothing. As yet there is no evidence anywhere in Mexico, either pre-Conquest or modern Mexico, for any organization other than the compound family group, with bilateral descent and some emphasis upon inheritance through the father of property, position, and functions. Among several peoples kinship terms are applied in the characteristic Indian classificatory way, classification by generation, but I doubt if this practice alone is evidence for the existence of kinship groups which are not remembered as actually related by blood. Among the Pueblos, Taos has the classificatory system and Taos is clanless. There is a tendency towards paternal inheritance among its paramount chieftaincies. The moieties of the Tewa and the kiva organization of Tewa and Keres are based on paternal descent. Neither to the eastern pueblos nor to old Mexico can the western pueblos look for affiliations in their system of exogamous maternal clans.

The godfather or ceremonial father or sponsor the Aztec and all the Pueblos, western as well as eastern, have in common. The combination of Indian sponsor and Spanish *padrino* is one of the most interesting of all the expressions of acculturation in the social organization of hispanicized Indians. The Spanish *compadre* system undoubtedly fitted into the Indian sponsor (and kinship) system.

Between Aztec and Spaniards there were favorable conditions for acculturation in attitudes towards days of birth, towards patron saints' days and days favorable for birth in the Aztec calendar,—conditions which did not occur between Pueblo and Spaniards, for the Pueblo calendar, unlike the Aztec and the Augustan, does not allow for prognostication for every day of the year. However, in one or two cases the Pueblo attaches importance to the time of conception and relates it quite in the Aztec manner to the god's ceremony. Children conceived during the Zuñi Scalp ceremony are under the protection of the gods of war and are especially strong, becoming sturdy men and women.^{108b} Somewhat similarly Laguna children conceived on Christmas eve were called the saint's children, at least according to a Zuñi visitor who ridiculed the custom, seeing no relation, of course, between it and Zuñi custom.

Among the Aztec there are pregnancy taboos, on both parents, which are of the same type as Pueblo pregnancy taboos. Compare the Aztec belief, that a pregnant woman should not see a man hanged lest the child be marked, with the Pueblo belief that a pregnant woman should not see certain masks lest the child be born blind or with a twisted mouth. The

^{108b} Zuñi Ritual Poetry, 679.

Pueblo belief that the child will have a harelip if his mother is exposed to a lunar eclipse is also Aztec belief. In both cultures the prophylaxis is the same, carrying a stone knife in the dress. The Pueblo carry other things too, but in Pueblo circles an arrow-point is the most usual talisman against supernatural danger. Aztec and Pueblo have both a rite of presenting the infant to the Sun at sunrise.¹⁰⁹ The Aztec kept a fire burning for the first four days after the birth,¹¹⁰ just as some of the Pueblo do. Asking for the bride and asking repeatedly was Aztec custom,¹¹¹ as it is Isleta custom. The Hopi marriage procession recalls the Aztec marriage procession. Four days after a death heads are washed, by Aztec¹¹² and Pueblo. The spirit of the deceased has lingered for four days. The spirit transforms into a bird of fine hues,¹¹³ just as at Zuñi and Santo Domingo¹¹⁴ the spirit may transform into a duck.

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¹⁰⁹ Sahagun, 242

¹¹⁰ Sahagun, 242

¹¹¹ Sahagun, 70

¹¹² Sahagun, 133, 230

¹¹³ Sahagun, 194.

¹¹⁴ Santo Domingo (MS.).

UNDER THE caption *Onomatology of the Catawba River Basin*, the late Albert S. Gatschet had in the *American Anthropologist*¹ four pages on geographical names exclusively; in the same volume of that review, my regretted friend Alexander F. Chamberlain gave us a longer paper on *Earlier and Later Kootenay Onomatology*,² but his list and comments, valuable though they are, do not exceed the range of common nouns. The same periodical later contained material on *The Early History and the Names of the Arapaho*,³ only part of which is onomatological in import, referring to tribal names, those of the Indians under review themselves, such as given by the French and others, while volume XV of that review has a five-page article on *Some Indian Stream Names*.⁴

This last was published in 1913. Ever since, that is for the last twenty years, nothing of that nature has appeared in our periodical. Nay more, of onomatology proper as I understand it, that is of the question of personal names, not a word so far. On kinship terms no end of interesting papers have adorned its pages, and justly so. The student of primitive psychological activities can scarcely view with indifference the way kin are differentiated among the various uncultured nations. Nor, unless I am much mistaken, should the sociologist look down upon, or regard as being outside of his province and therefore to him unimportant, the manner in which the same unsophisticated people designate their fellows individually. That process lifts up a corner of the veil which conceals man's mental workings, and as such should not, it seems to me, be neglected by the anthropologist.

For these various reasons it might be thought that a few strictly onomatological pages should not be altogether out of season. I have just found among my old papers some notes and name lists which I gathered when I was a missionary among the Carrier Indians, a section, as should by this time be well known, of the Dénés of British Columbia, and the thought has occurred to me that these might be utilized in the preparation of a short essay on Carrier personal and other names. The result of that idea is here presented to the indulgent appreciation of both the sociologist and the philologist.

Reviewing personal names, I shall first give instances of common, informal terms denominating individuals, after which hereditary vocables, or titles, will come in for explanations and exemplifications, my remarks ending in a review of, and comment on, a few geographical terms current in their country.

¹ IV: 52.

³ *Ibid.*, IX: 545 *et seq.*

² *Ibid.*: 229 *et seq.*

⁴ *Ibid.*, XV: 327 *et seq.*

COMMON PERSONAL NAMES

Forming a Déné tribe, some of whose ethnical kindred are amongst the most primitive of people, though contact with a higher culture, that of the Tsimshians of the western Coast, had endowed them with a more elaborate sociology, the Carriers had no name-giving ceremonies, as was the case with other American aborigines, apart from the festivities connected with the assuming of hereditary titles.

Nor were with them cognomens restricted to one per individual. As we shall see by our first list, quite a number of those personal names referred to some particularity, an accident or incident in life, or a bodily or mental characteristic of the individual. Such appellations were therefore given not immediately after birth, though usually in early youth. Nevertheless quite a few, when bestowed in memory of an ancestor, may have been given at birth, despite the apparent characterization they imply.

In such a case, the grandmother, grandfather, or father, if not an obliging friend of the family, would generally act as sponsor, and give the child one of the following names, or another of like description.⁵

Na-lrên, he (or she) is thawed out	Ti'qerh-niya, he walks alone (un-aided)
Tsêpa-šthi, he (she) sleeps by the fire-side ⁶	Ti'qerh-neyêh, he grows alone, by himself (he is a self-made man)
Hwosêyah, he bumps against it	Na-tha-lyis, the water rests again
Tši-yel·a, he orders to himself	La-tha-niyêł, it grows on the hands
Tha-yellih, he uses to put (cpl.) in the water	Thû-ke-nelmel, he boils over the water
Yel-nêyił, he grows with him (or her)	Yen-una-diyał, he walks around the earth
Etêtcu-deni·, she says first	Thû-ķê-ithis·ên, he looks through the water
Etêtsâ-niya, he walks ahead	
Ye-khê-ditês, he tramples it under foot (khê)	

A few other common personal names refer to some unusual circumstance connected with the birth, or after-birth days, of the child. For instance, Ya-ķê-thiltê means: he cleared up the sky; that is, at his birth the sky suddenly cleared up; Tšû-tcêh, in the shelter of a spruce, recalls the fact that the child was born in such a place. As to Yen-kha-hwendeni-nih, a rather long

⁵ For the value of letters in the Carrier words of these pages, see my *Carrier Language*, vol. I: 3-7.

⁶ Once for all, let it be well understood that, apart from the names in -nan, personal or other names have no gender in Carrier.

word for a name, it may be rendered: there was a noise in the universe (at his or her birth).

The following are self-explaining, and denote some particularity, incident or characteristic in infancy: Thepê-ezeļ, he shouts much; Tso-dintcâ, his weeping is great, that is, he is a bawler; Tsě-dintcâ, he has a big voice, etc.

An incident of youth is similarly commemorated by the name of which the following short legend reveals the origin.

A tenê-za-⁷ had a daughter who went one day kinnikinik-berry picking. While there, she met two young men⁸ who put her in a parfleche wallet and carried her away. Unable to see anything, the girl tore off her dress the dentalium shells⁹ which adorned it, and dropped them one by one on the way through an aperture in the hide of the bag. Her intention was to mark the way,¹⁰ so that her kidnappers could be found, or that she might herself be thereby enabled to return home.

But they carried her much too far [to render either alternative practical¹¹], indeed very, very far. Then they took her out, and only now could she see the light of day since she had left Sta-piz,¹² on the north side of Fraser lake.

The young men then took her to wife. One would stay with her while the other was hunting.¹³ In the course of time, she gave birth to a child. But later pining after her own, she thought of returning to them. She therefore dressed a large number of skins, wherewith she made many moccasins. She also prepared beaver-nails, together with the little substance adhering to them, put a piece of fat in the mouth of her babe¹⁴ and left.

A long, long time she walked,¹⁵ until she had worn out all the moccasins she had

⁷ *Vide* note 31, as well as most of my anthropological writings.

⁸ Two is the sacred, or mystic, number of the Carriers, in the same way as four is in the eyes of most of the other American tribes. *Vide* Morice, *Three Carrier Myths*, Trans. Can. Institute, V. 4. Referring to just one of those legends, "Pursued by their Mother's Head," note the *two* serpents which cognoverunt unam mulierem, the *two* children of that woman, the *two* girls who were to be given to wives to one of them, the woman's head swallowed by *two* (!) whales, the *two* winged daughters of Thunder, while another myth recounts the deeds of a kind of Carrier Hercules, who kills *two* giant toads, *two* giant snakes, *two* giant spiders, etc.

⁹ The great medium of barter and piece of personal adornment of the Northern Pacific tribes.

¹⁰ We find such an expedient resorted to by the heroes of other legends, who sometimes use down or feathers for the same purpose.

¹¹ That is, her stock of dentalia was exhausted before the young men stopped.

¹² "Within the point of land, or cape."

¹³ Polyandry was not practised by the people among whom this myth was current. Number two is here adduced merely to conform to traditional reverence for it.

¹⁴ In order to quiet it, and not attract attention by its cries. Remember that, among the Carriers, infants are carried on the mother's back facing an opposite direction to the one she herself follows.

¹⁵ It is not said how she found her way to the place where she had stopped dropping dentalia.

taken with her. Then she used spruce and birch bark, eating as she went on her provisions, namely one by one the beaver-nails with adhering substance, which she patiently sucked, and at length reached Nünrak,¹⁶ near the Nechaco and the outlet of Fraser lake. She was then very thin, being reduced to skin and bones.

While she was away from home, her relatives had vainly looked for her. They had traced her to the place where ended the dentalium shells dropped on the ground. Then, unable to seek her farther, they had come to the conclusion that she was dead, and her father, in the midst of a large concourse of people, was just on the point of making a distribution of skins,¹⁷ when two young men found her.¹⁸

Brought to her father, she assisted at his feast, when he proclaimed that his daughter having gone far away, she should thenceforth be called Nêza-netna.¹⁹

All the foregoing personal names are verbal nouns. Others, of the same class of common informal vocables, have no verbal elements in their make-up, being, as a rule, secondary or compound, substantives, though a few, Tsël, axe shaving, T'let, fart; Sě, belt, Dzôn, a reminder of dzan, silt, are primary roots. To the former category belong:

Na-kuz, eye pellicle	'El-yiž, long (coniferous) bow
Pe-llet, his (or its) smoke	Tšě-therh, among the stones
Hwo-t'lat, (French) fond-du-lac	Ekha-pa, slab
(a woman's name)	Hwoṭa-lla, the end under
Khě-pa, feet edge	Ełthi-tah, gun muzzle (a woman's name)
Khě-thû, feet water	Ya-ke-cen, literally: sky-on-song
Tšû-lla, spruce end	Šai-la-wě, <i>vide</i> below
Na-khwen, eyes fire	Tsa-khě-t'lah, beaver sole (lit. beaver-feet-bottom)
Te-l-tcen, <i>vide</i> below	

Others, again, like Kwa, Taya, Têpa (woman), Êlmok (do.), Kezi (do.), seem to be meaningless, and may simply perpetuate sounds uttered by a child as yet not proficient in speaking, while a few would not any more possess a signification if one was not furnished rather by tradition than by etymology. To the latter class belong such names as 'En-łi, which is the equivalent not of "yonder dog," as it should grammatically, but of "here below dog." Another, Te-l-tcen, is more suggestive than significative. Tcen is the root for wood, stick, and *l* is the pronominal element, third person, of the verbs relating to sounds: wherefrom the reader will himself infer the

¹⁶ A Lower Carrier geographical term.

¹⁷ That is, to make a potlatch, on which our next section will enlighten us.

¹⁸ The mystic number again.

¹⁹ "She moved far away with her chattels." Nêza is the equivalent of Upper Carrier nildza. My narrator, Thomas Thautil was a native of Fraser Lake.

sense he pleases. As to Šai-la-wê, its two first syllables mean sand end; but I fail to see the use of the third.

A different class of Carrier personal names was made up of appellations superimposed, as it were, on the preceding, inasmuch as they generally did not date from infancy, but originated in dreams, and consequently contained an element of mystery, if not sacredness, much prized by the natives. They can boast no particularity to distinguish them from those we have so far reviewed, save the fact that they are somewhat more difficult to understand, containing often in their construction some contraction, omission or distortion of the normal way of pronouncing their prototypes. Among such we have:

Tha-utił (for tha-ke-etił), they (fowls) fly over the water	Łe-neyĕh, almost the equivalent of: they grow up one within another
The-nneyĕh (that is, tsa-therh- neyĕh), he grows up amidst (beavers)	Pê-dintcâ (for Pê-huntcâ), it is big inside (receptacle)
A-hwołtših, <i>vide</i> below	Peł-tsa-zel, with him the heat of the sun
Rhel-tco, the equivalent despite appearances of Le-nde-ķhĕ-ltco, their feet are as big one as the other	Pena-hwodłłtsih, it appears (in the distance)

It will be seen by this short list that most of those names contain as a semantic element, something, a concept or reference, which is not in the least apparent in their actual form. Thus, apart from the above, A-hwołtših which, etymologically, would seem to refer to the action of the wind (tših), is in meaning quite different from all appearances, since tradition tells us that it hints at an owl which got gluttoned through eating.

A third category of common personal names requires for a proper understanding a few words of explanation, which I shall derive from the pages of one of my historical works.²⁰ In the course of 1846, the Babine Indians, northern neighbors of the Carriers, received the visit of the first minister of the Gospel they ever saw, in the person of Rev. Juan Nobili, S.J. The priest naturally created quite a stir among them; but it may be said that one of the particulars which struck most their fancy was the fact that he bestowed names on the children he baptized.

After his return south,

numerous pseudo-priests, or would-be prophets, sprang up from all places, who,

²⁰ Cf. History of the Northern Interior of British Columbia, 238-40 of the 3rd edition, Toronto, 1905.

on the strength of dreams, real or pretended, claimed supernatural powers, preached after a way, made people dance when they did not know how to make them pray, gave new names to their adherents, and otherwise counterfeited the work of the missionaries.²¹

Started among the Babines, this religious movement soon spread to the Pacific Coast, as we gather from Rev. W. H. Collison's *In the Wake of the War Canoe*.²² The Carriers, just to the southwest, were not to be outrun in the race for notoriety, and soon enough all their villages had their na-hwolnek, or "narrator,"²³ whose chief business it was to preach as they could, relate the wondrous dreams with which they had been favored, and give names—for a consideration—to their followers.

A fine Indian of Tache, who "christened" himself Za-n-the-lla²⁴ before he became known as Abel after his Christian baptism, and was to die the respected chief of that place, together with a younger one, Etêtsâ-niya, who styled himself Za-metqel and was to become an excellent Catholic under the name of Julien,²⁵ were the principal pre-Christian "preachers" of Stuart Lake. To the latter I personally owe a debt of deep gratitude for the innumerable lessons in his language which he gave me.

Yet the most prominent apostle of the new religion, its most successful and renowned promoter, remained a Babine who had called himself Pê-ni, his mind, a name he based on the fact that, in the course of his many cataleptic fits—the most undoubted way of communing with the spirit world in the estimation of the natives—he claimed to see cephalomorphic beings, human heads provided with wings, much after the way artists sometimes depict angels, who were hovering from person to person, listening to the working of their mind (pê-ni), a feat he boasted of achieving himself.²⁶

Most of the names given by these pseudo-priests have a strange, heterogeneous appearance, being evidently, at least in some cases, counterfeits of French vocables such as pronounced by Indian lips. As such they usually cannot stand analysis. The only one I know of which is of genuine Carrier manufacture is Yá-kez-u-dzě-pê, lit. sky-on-his-ears-in, as if one would say: within heaven's ears.²⁷ Others are:

²¹ *Ibid.*, 238.

²² P. 274, London, 1915.

²³ The name the Carriers still give to the Catholic priests.

²⁴ Almost as if one was saying: the end, or the last (lla), among (the for therh), the Johns (Za).

²⁵ The last acquired of the several names of the same individual.

²⁶ He must have derived the notion of such beings from peeping at some Catholic prayer-book.

²⁷ Yákez is the word currently used by the Carriers as a synonym of our word heaven.

Hol	Sazi	Thû-tha, water-in
Pas (woman's)	Sapsis	Sêli (woman's), <i>vide</i> below
Zamol (do.)	Sagala	Sineli (do.)
Zamza	Sallusa	Lepya ("la pierre")
Zametqel	Samuluk	Lomdehel
Zamthella	Samtutlas	Suzamni (Susan and Annie combined)
Madem, <i>vide</i> below	Sazali (woman's)	
Adem-za, <i>vide</i> below	Samtelestā	Tsis-le-pyel ("pyel"=French "Pierre")
Ye-tca, his-ribs		

In which cognomens initial Za is probably no other than French Jean, while the Sa- of others is certainly the French for Saint.²⁵ On the other hand, Zêli is evidently a corruption of Julie. As to Madem, its phonetic affinity to Madam, or Madame, is too great for me to resist the temptation of imagining that the first who stood sponsor therefor merely borrowed it from the Hudson's Bay Company clerks or French employees. The same is true of the two first syllables of Adem-za.

Apart from the foregoing, a fourth class of Carrier proper nouns applied to persons started by being something like nicknames, given, as a rule, because of a fancied physical resemblance to the object, or animal, thereby recalled, or possibly owing to some totemic connection. In the first case, when depreciative, those appellations remained pure nicknames, and were reputed offensive by the individual thus denominated, therefore not to be uttered in his presence.

Such was the case with Lê-tco, sturgeon, because of an abnormal length of the head; Wa-ši, lynx, when the head was, on the contrary, too rounded to suit native esthetic ideas; Tsa-thi, large beaver, which was intended to convey the notion of a bust of an exaggerated length; Tšen-tco, swan, implying a similar defect with regard to the neck; Kûzih, (Canada) Jay, as much as to say: great talker, babbler.

Most of these names are rather pejorative, or at least qualificative, in intent.

—You Lynx, will cry out an angry woman to a rival.

—You Grass-Blade (T'lo-ka), will retort her partner in a dispute.

Others are merely denominative, and would in course of time come to play the rôle of real individual names, to which no objection could be taken. Among these we may quote:

²⁵ It must be remembered that, at that time, all the employees of the Hudson's Bay Company were French Canadians, constantly in close contact with the Indians.

Tcennih, the marten
Nusthêl, the wolverine
Tet̃ai, the duck

Tadzi, the loon
T̃siñkai, the golden-eyed duck
T̃sitqel, the kingfisher

Other persons, again, may be surnamed after an object, such as a clock. Sa-dzi,²⁹ a Tsimshian packing box, Hoñkhwen, etc.

In some cases, verbal qualificatives akin to those of our first list would be playfully made to recall some particular circumstance or characteristic of the individual. We have seen, for instance, Pena-hwodiłtsih among the vocables due to the influence of dreams. I quite remember the man who was known under that name. His Christian name was Casimir, and he regarded his rather long native cognomen as just as legitimate. But apart from these two names to which he willingly answered, he had a nickname, Uł'qul-yaz, the little biter, by which he was also widely known, though he refused to acknowledge it as his.

Closely connected with such of those cognomens which do the part of nicknames are a few which are intentional and playful distortions of names unrecognizable under their new forms. Nobody, for instance, could see the regular appellation Paspo· in Kahqebût, while the analogy between Milko and 'Qes̃to· (a fleshy excrescence) is not much more apparent.

So much for the common personal names of the Carriers. It is now plain that the natives thereby mentally associate their fellows with past events, some bodily or temperamental peculiarity, a distinctive characteristic, etc., or again recall an occurrence connected with their birth, assimilate them to divers elements of the animal kingdom, or mimic the christenings of the whites—as many tokens of primitive mental activities which are worth a moment's consideration on the part of the sociologist.

THE HEREDITARY AND THE FEMININE NAMES

The most inveterate social institution of the aboriginal population of the North Pacific Coast of America is that of the "potlatch,"³⁰ or the ceremonial banquets and distributions of victuals, blankets (formerly dressed skins), and other goods by the heads of clans, or gentes, called teñ-za.³¹ among the Carriers, who have borrowed that observance and concomitant organization from their western neighbors. So deep-rooted is the potlatch, such paramount importance is granted to it in native society that, in most places, it has to this day remained proof against the prohibitions of both the civil and religious authorities.

²⁹ Literally, sun-heart.

³⁰ The Chinook word for "to give away."

³¹ Almost equivalent to "the only men."

And no wonder, for it is considered as the legal fee, the proper means of acquiring one's title to the possession of the gens' hunting grounds, on which subsist those great huntsmen who are, or were, the people among whom the potlatch prevails. There exists in their society a well-defined hereditary nobility, made up of the college of the above-mentioned *tenêzas*, who alone possess the land of the tribe. On the other hand, as matriarchy is the fundamental law of the country, titles and rank go from uncle to maternal nephew.

When, therefore, a nobleman or notable dies, it is well understood that he will be succeeded by the eldest, or another, son of one of his sisters, who belong to the same gens as himself, inasmuch as land cannot be alienated into a strange social division; but that succession cannot be effected without paying for it, and the way to do this consists of a series of public feasts or donations, six in number, which I expounded with details as long ago as 1888.³²

Although that first essay of mine is now scarcely known, because of the limited circulation of the periodical in which it appeared, I am loath to reproduce here even a condensation of it. Yet as those festivities are the recognized process for the acquisition of a new name, I mean the title of a former *tenêza*, I must of necessity have a word or two concerning the steps which lead to that acquisition.

When, among our Carriers, a nobleman had passed away, the first of the ceremonial banquets given in his honor by his presumptive heir would take place three or four days after the arrival of the invited exo-clansmen come to attend the cremation of the late *tenêza*'s remains, and might be repeated several nights in succession.

With this end in view, his maternal nephew, armed with a ceremonial decorated staff would strike the ground in front of a titled guest, saying in loud tones, for instance: Qi, qi, Rharhul! Qi, qi!,³³ an invitation which would be repeated in connection with each and everyone of the present *tenêzas*, after which the invited dignitaries were led to their traditional places in the lodge, the untitled heads of families and single individuals placing themselves as best they could without any ceremonial—the higher in society the farther from the doorway, which was assigned to women and dogs.

Then began the distribution of eatables, double or triple portions of which were served to the notables, after which the aspirant *tenêza* tore a few dressed skins to the size required to make a pair of moccasins, taking care to allow double width to the strips intended for noblemen.

³² Cf. *The Western Dénés*, 147–52; *Proc. Can. Inst.*, Toronto, 1890.

³³ Rharhul being the hereditary name of the invited guest.

The second potlatch was held when a new supply of eatables and skins had been collected, and it was in every respect but its aim identical with the first. This was intended to celebrate the deposition of the late *tenêza*'s remains in the place of respect in the house,³⁴ even though said remains might have been previously cremated. So far his prospective successor was still a mere aspirant to his uncle's rank, and had no right to his hereditary name.

The third, and most important of the six potlatches, was given after an interval of long and hard hunting by himself and co-clansmen. Loath to enter into all its details, I shall content myself with stating that the whole population of the surrounding, and often very distant, villages attended the ceremonial distribution, which was the more copious the greater the name of him who was on the point of being admitted to the rank of *tenêza*.

Accompanied by a suite of assistants, the heir to the title then proceeded to impose swan's down on the heads of all the guests who were to attend the feast on the morrow. That day witnessed the aspirant nobleman's confirmation as successor to his uncle's position and privileges, as well as the assumption of his hereditary name.

In front of the whole assembly, he would stand by the side of the pile of dressed skins which he was about to give away. Then the master of ceremonies would take swan's down and sprinkle it on his head, calling him by his new name, which was enthusiastically re-echoed by the guests, after which the same individual took up one of the dressed skins and, having stretched it out to the public gaze, put it mantlewise on the shoulders of the new *tenêza*, a ceremony which was repeated in connection with all the other skins.

At the same time, his exo-clansmen struck up and sang lustily the late nobleman's chant, which thenceforth was his successor's, while his co-clansmen went into perfect hysterics of grief, their last sign of mourning for the departed one.

The master of ceremonies having blown on the head of his heir some more swan's down, the white waves of which were significant of the excellence of his new dignity, all the skins just exposed to view were distributed in the shape of strips as before.

The subject of those festivities was now a full-fledged and accepted *tenêza*, and was known by the name he had just inherited, though he had some more potlatches to give. These names, from the list of which the new notable was not at liberty to choose, did not, however, supersede those by which he may have been previously known. They are remarkable for the

³⁴ A very large communal building.

fact that quite a few of them are meaningless to the Carriers, being possibly of extraneous origin, as is the institution with which they are connected. Of these I may cite the following, which are almost all unintelligible.

Rharhul	Skwah	Nelli
Teka-	'Qasyak	Yabé
Kwah	Akêtes	
Na-ķwel	Khadintêl ³⁵	

Other hereditary names are more or less easily understood. Such are, for instance, Na-tha-dilthel, the water burst around (or across); Na-ķê-tet, trimmed over the eyes, Tca-êz, (for U-tca-dițéz), trampled over his ribs. Tha--tședzał, one violently hurls into the water. Et'leñ is an old form which has been replaced by modern Et'li, and stands for the hook of a fish-hook, while Na-dipis is absolutely up to date, being the present name for the night-hawk.

Born some 145 years before the coming of the first white man into his country, Naķwel is the first historical personage of the Carriers, quite a character, who died considerably over a hundred years old. In fact, so long-lived was he that Kwah, another tenêza who once (in 1828) had in his hands the life of James Douglas, afterwards the first real Governor of British Columbia, had known him for some time,³⁶ while a number of my informants well remembered the latter. Akêtes and Khadintêl, likewise historical figures of that same tribe, lived in the period intervening between the two. As to the other six notables, I have myself personally known people who bore the names of five of them.

From the foregoing, it is plain enough that, though usage has restricted a few of the above-mentioned names to women, most of them are devoid of any generic limitations. Thus Rharhul, for instance, can be a man or a woman—for there are noblewomen as well as noblemen—as is also the case with regard to the vocables referring to some bodily or other particularity.³⁷ Nevertheless the Carriers have, for a wonder, quite an array of

³⁵ This last was an honored citizen of Chinlac, when that place (at the confluence of the Stuart with the Nechaco river) saw almost all its population destroyed in one night by Chilcotins come from quite a great distance to avenge on them the death of one of their own chief men. Cf. chapter II of my Hist. of the N. I. of B. C.

³⁶ For that stirring episode in Sir James Douglas' life see chapter IX, third ed. of Hist. N. I. of B. C.

³⁷ Nay, that nobiliary name will be applied even to the ceremonial wig, a beautiful head appendage, made up of the hair of three women inter-persed with numberless Dentalium shells, etc., which the tenezas wore on grand occasions. For an illustration of the one called Rharhul see my Notes . . . on the Western Dénés, 176, *ap. Trans. Can. Inst.*, 1893.

personal names which designate only women, and can be at once recognized as such through their ending.

This is -nan, which concurs in the formation of names which have a sort of strange, if not foreign, appearance, were it only because of the exotic nature of that same termination, despite the fact that it can at times be made to serve in a verbal capacity. There au net-nan ilerh, we might say, meaning that, in such and such a place, there is no woman-naming in -nan, in the same way as one may remark that in another nerhešnan, they resort to that process.³⁸

I am very much mistaken if those words are of really Déné origin. They may have been borrowed from the heterogeneous Coast tribes, as are some of the aforesaid nobiliary titles. At any rate, there seems to be in most of those names something, word elements or grammatical features, which is extraneous to the Carrier language,—not to mention the obscurity concerning the exact semantic value of that would-be verbal root. For the lack of an undoubted equivalent, we will attribute to final -nan the sense of: a woman being called after what is expressed by the preceding elements of the word, though this is normally said quite differently in Carrier.

We shall now proceed to give the names in -nan we know of, beginning, for the sake of classification, with those in -šnan, indicative of the third person singular, and having each of them accompanied by the signification which seems to be theirs, either through an analysis of their elements or from traditional report—for in not a few cases their meaning is far from clear—to all of which "called after" will have to be mentally supplied.

Ła-šnan ³⁹	Tso-peł-ne-šnan, she walks weeping
Na-šnan, surrounded by (a song, etc.)	Yáz-ťat-thi-šnan, she departed under the sky ⁴¹
Hwo-šnan, up against (a wall)	Yen-hwodi-šnan, she walked through the earth
Khoni-šnan, she went through	Yá-tah-rheni-šnan, she turns under the sky
Nedi-šnan, <i>vide</i> below	Thû-tše-na-thi-šnan, she returned to the water
'El-thû-šnan, dam-water	The-na-cen-di-šnan, she dived singing
Tsi-thê-šnan ⁴⁰	
'Ai-thê-šnan, <i>vide</i> below	
Kha-thi-šnan, she went hunting	
Ne-rhu-šnan, <i>vide</i> below	
Sla-n-pê-ne-šnan ³⁹	

³⁸ In Carrier even adverbs and some interjections can at times be used as verbs.

³⁹ Signification unknown.

⁴⁰ Tsi-, bad, in this name renders it depreciative; as if one would say that good-for-nothing person went off.

⁴¹ One does not well see the *raison d'être* of the *z* in yáz or of the second *t* in ťat, unless the latter element is an evolution of ťah caused by initial *t* of the following syllable.

I must repeat that not only the meanings I give are sometimes little more than approximations, though often certainties, but that the native terms to which they correspond are built in a way which is scarcely grammatically Carrier. Thus, for instance, the real expression for: she walked weeping is *ne-tso-diŷya*, in which case, however, there is no special reference to woman. *Tso-peŷ-neŷnan* means literally: she (-*nan*) walks (*ne-*) with (*peŷ*) weeping (*tso*), a compounding which is not Carrier-like, though separately its elements are.

On the other hand, the real signification of *ne-diŷnan* is: she picks up berries, which is learnt only through tradition from generation to generation, for the true Carrier equivalent of this phrase is *uneyin*, quite different, one will admit, while *Ai-thêŷnan* is believed to be an imported word of Kwakiutl origin. As to the real semantic value of *ne-rhuŷnan*, it is altogether arbitrary to one who is conversant with the Carrier language, since it is said to correspond to the locution: *tŷiya ipê neŷnan*, almost untranslatable in English. She is called after everything, is about its equivalent.

Women's names in -*tnan* are about as numerous. We will quote:

Ti- <i>tnan</i> , (named after) thundering	<i>Peŷ-na-sa-tnan</i> , <i>vide</i> below
Tha- <i>n-tnan</i> , being amidst (tha for therh)	Tsih-di- <i>tnan</i> , (called after) vermilion (tsih)
Ih- <i>tnan</i> , said to stand for: she got diminished	Tella-di- <i>tnan</i> , (called after) buds
Tso-di- <i>tnan</i> , (called after) crying	Tehra-tha- <i>n-tnan</i> , <i>vide</i> below
<i>Peŷ-kê-di-tnan</i> , for the love of sleep	Kwes- <i>taŷ-a-tnan</i> , <i>vide</i> below
Tenûn- <i>tnan</i> , <i>vide</i> note 39	Thi-n'- <i>qe-di-tnan</i> , out of the way
Thû-tha- <i>n-tnan</i> , <i>vide</i> below	<i>Peŷ-tha-yi-tnan</i> , amidst dreams, or sleep
Kê-pî- <i>tnan</i> , possibly: among (in, pî for pê) the willows (should be <i>krêi</i>)	Hwote-ti- <i>tnan</i> , (called after) a hill in the road
	Łtha-tcê-in- <i>tnan</i> , (called after) the imbricated scales (of a beaver) tail

Tradition will have it that Thû-tha-*ntnan* is the equivalent of: she left it among the waves, a signification which could scarcely be attributed to it; the sense of *Peŷ-na-sa-tnan*, she went down with the sun (*sa*), is slightly more apparent, while that of *Peŷ-tha-yîtnan* hints at sleeping or dreaming (*peŷ*) and some kind of immersion (tha for therh), to which is added the idea of a complement in the third person singular of the past (*yi-*).

Lastly, a few such ancient women's names end only in -*nan*, without either *š* or *t* prefixed thereto. Thus we have *Ni-l-nan*, which refers to the

mind (ni), or a spirit, the *ł* being here merely copulative;⁴² Ku-nan, which connotes a point up against something. Tšě-ťai-nan, which stands for Tšě-ťah-nan and means (called after a position) under a rock; Dzel-nan, the equivalent of (called after a) mountain, and Dzel-yi-a-nan, for Dzel-yo-nan, which means (called after) the interior of a mountain.

Some of those names were given under the compulsion of a dream. For instance, K̄wes-ťah-atnan was bestowed on his daughter by a shaman who had dreamt of a rainbow. It means lit.: clouds (k̄wes) under (ťah) as in a cavity (a) a woman is called after (tnan).

But by far the greatest part of them were hereditary, not in the same sense as those of the noblemen, but because they were names which had been borne by a grandmother or some other relative who had died long before. For we must not forget the law of Carrier onomatology, similar to that which prevailed among most other American aborigines, which sternly forbade the naming of a person dead within the memory of the late generation. So-and-so's father or mother, that man's daughter or wife, such and such a woman's child or husband, etc. must absolutely replace the names of the departed ones, unless you want to insult most grievously their living relatives and provoke a copious flow of tears.⁴³

And when you live a number of years with the natives, speak their language like themselves, daily associate with them as if you were not a white man, you get to be so identified with them that you come insensibly to imbibe their reverential fear of uttering the name of the dead, to such an extent that this taboo seems quite natural to you.

I, for instance, distinctly remember how, after many years spent in the closest intimacy with my Carriers, having gone to attend the funeral of my Bishop, I was indescribably shocked at the freedom with which his name was pronounced by the mourners and others, and felt prone to consider that *sans-gêne* as something little short of sacrilege.

The same aversion to the pronouncing of a name was, for a different reason, usual when it was a question of naming one's self. In common with most aborigines, a Carrier will under no condition answer directly the question, What is your name? In such a case, an obliging friend will always answer for him, or failing the services of such a one, he will instinctively turn towards his wife, brother or sister, or anybody else, and himself ask for the benefit of the first questioner, How do they call me?

The foregoing will have revealed the fact that the Carriers do not name people after their children, as do, for instance, their neighbors the Sékanais

⁴² Cf. The Carrier Language, vol. I: 94.

⁴³ I have witnessed a few cases of such incidents.

and most of the Eastern Dénés. Thus the former will call Karh-tha, Father of the Rabbit, a man whose son is Karh, the Rabbit. Testlê-ma, Mother of the Squirrel, a woman who has a son known as such. Neither do they take into consideration the reverse parental relation, that of the son with regard to the father, as we ourselves do when we call one Thompson, the son of Thomas, Johnson, Jackson, Richardson and the like, or even as do the Scotch and the Irish with their Mac and O' prefixes, or as did the Norman French in England when they dubbed Fitz (Fils) the bastards of kings.

It also goes without saying that their social life and avocations did not allow the Carriers to use cognomens derived from any particular handicraft, such as would be the equivalent of our Smith, Wright, Carpenter, Turner, Miner, Potter or even Fletcher, though fletching was certainly not unknown of them. They did not either, when naming a child or an adult, think of the colors of the rainbow, as we do when we call our fellow-creatures White, Black, Grey, Green or Brown. They are too realistic, too true to nature, and know full well that no one amongst them can be green or is really white, and that, at all events, color names are not individualistic enough to properly differentiate one from another.

For, useless to add, all Carrier names are individual. Family is not known as a social unit, and therefore can have no influence over the naming of its members. After marriage, the wife keeps her own name, and each one of the children is afterwards called without any consideration for the way the father is known.

GEOGRAPHICAL NAMES

The habitat of the Carriers is *par excellence* a land of lakes. In fact, the southwest part of their territory was, until a comparatively late date, labelled "Lake Region" on Government maps, which did not know much about it. These had even come to give in dotted outlines quite a number of fantastically large lakes,⁴⁴ which the explorations of the writer were to reduce to their proper dimensions.⁴⁵

These beautiful sheets of water, long, generally narrow and very deep, may be divided into two main groups, those of the Stuart fluvial artery belonging to the Upper Carriers and those of the Nechaco basin, mostly at the head of the river of the same name, claimed by the lower branch of the tribe. The country of either ethnographical division is well watered:

⁴⁴ V. J. Trutch's map, issued in 1871, I think.

⁴⁵ *Vide* his maps published in the Bulletin of the Geographical Society of Neuchâtel, Switzerland, as well as the large one of the same issued in 1907 by the Government of British Columbia.

lakes and streams galore, and its orography is so complicated, its mountains so numerous, that it will be wiser for me to keep shy of their names.

On the other hand, perhaps because of the antiquity of the words by which its geographical elements are known, they are often quite difficult to understand, and in the case of some, could not at all be analyzed without acquaintance with local traditions. Take, for instance, Lake Stuart, the best known of the northern bodies of water, its native name, as well as that of its outlet, together with that of its most remarkable mountain, center round myths according to one of which the latter is hollow, and peopled by a tribe of dwarfs quite lilliputian in size but veritable Hercules in strength.

Now that same mountain, which is mammiform and rises to a height of 4800 feet, has on its very summit a hole which, to the realistic Indians, recalls a woman's vulva. Hence its name: Na-kal, which would be perfectly unintelligible if we did not associate with that particular shape the supposed presence of dwarfs, that native term meaning in reality the Dwarf's Vulva,⁴⁶ because its first syllable stands for *Etnanê-yaz*.

To the whites the same is Mount Pope.

Now for its onomastic influence on the names of the neighboring geographical points. The beautiful lake, fifty miles long, which bathes the feet of the mountain is called after it Na-kał-ren, the termination of which is normally a postposition denotive of proximity, reference and connection, and here and with regard to a few other near-by expanses of water takes the place of the noun *pen*, lake, or more fully *peñ-ren*, as we see in *Tsa-peñ-ren*, Beaver lake, a long sheet of water to the east of Stuart lake.

Na-kal-ren, therefore stands literally for: (the lake) by the Dwarfs' Vulva, and the main body of the same where it is broadest (six miles and a quarter across) is known as Na-kał-therh, or (the place) between, amidst that mountain (and the heights on the other side).

In the same way, the outlet of that lake is called Na-kal-khoh, the ending of which is the root word *ekhoh*, river, under a slightly abbreviated form. The Carriers have another substantive, *thûkoh*, as if one would say: the bed of the water, to denominate a stream, but this is used independently, never in word-compounding.

About fourteen miles northwest of its outlet on the same side of Stuart lake, is an Indian village, Pinche (*Pîn-tcê*), at the mouth of a river which disembogues there the waters of another lake of some magnitude parallel to Stuart lake, on the opposite side of Mount Pope. This is known as *Thès-sra-pen*, which has one of several possible significations, on which the

⁴⁶ *Vide* vol. II, 516-19 of the writer's Carrier Language.

natives are not agreed. The semantic value of the word *Pîn-tcê* is not itself very plain, as its first syllable may be the equivalent of the last in *impîñ*, a word which designates in Carrier the pigeon, a bird now perfectly unknown to the country, but quite abundant two or three generations ago.

Be this as it may, the meaning of suffix *-tcê* in Carrier geographical names is very clear. It is the exact equivalent of our: mouth, as applied to streams. Thus, within less than fifty miles, we have *Pîn-tcê*, *Tha-tcê*, *Ķez-tcê*, *Yekhu-tcê*, *Tsa-utçê* and other similar geographical terms. This radical is not to be confounded with *tcě*, which means tail, and is among the Lower Carriers replaced by *-tcěk*: *Tha-tcěk*, *Tsa-la-khoh-tcěk*, *Liz-pa-huni-tcěk*, the mouth where there is lime (*lizpa*), etc.

Before going farther, I may warn the reader that some geographical elements, such as *Tache*, *Tatla*, *Nechaco* and others, are now so well known under that garb that I shall have thenceforth to conform to usage, because the right spelling of the same would entail diacritical marks and odd letters or graphic associations somewhat out of place in an English text.

Twelve miles and a half from *Pinche*, we have *Tache* (*Tha-tcê*), lit. water-mouth, because that locality lies at the place where *Stuart lake* receives its main affluent, which is in reality a part of the whole fluvial artery flowing through the basin drained by the *Stuart river* in its lower end. The same artery heads in the mountains close by *Bear lake*, about 56° N. lat., where originates the *Driftwood river*, which then traverses *Tatla lake* in all its length, then issues therefrom as the *Middle river* (the *Yûnu-i-khoh*, or *Far-up river* of the Indians), crosses *Tremblay lake*, whence it flows out as the *Tache river*, and, 28 miles south, leaves *Stuart lake*, under the name of *Stuart river*.

Ascending now *Tache river*, we come upon the mouth of another stream, on its left bank, at a place called *Ķez-tcê*. This is the *Ķez-khoh*, or river *Ķez*, whatever that may mean, which carries off the water of an important lacustrine basin called *Tces-ra-ñ-pen*, or *Paddle lake* (lit. *Tces*, paddle; *ra*, after; *ñ*, copulative, or euphonic; *pen*, lake).

Continuing our ascent of the main stream and basin, we have now to cross a new sheet of water, often turbulent, if not dangerous, of navigation: *Dzîn-re-pen*, *Day lake* (*Dzîn*, day; *re*, about; *pen*, lake), known among the whites as *Tremblay lake*.

This in turn receives from the north the above mentioned *Far-up*, or *Middle river*, a sluggish and very crooked stream, which seems almost a chaplet of small lakes formed at the turning points of its many meanders. This in turn issues from a long sheet of water, which sends forth to the left a shorter branch forming a fork, not many miles from its southern end,

La-tha-lkrez, a word which implies that this is the end (La) of the water (tha) which is forked (lkrez), a perfectly normal Carrier word.

This same important lake all the geographers and English writers imagine they give its native name when they dub it Tatla or Tacla. But this is a twofold illusion. In the first place, that body of water is not even approximately called Tatla by the Carriers, and if it were, then both syllables of the word would be wrong; for what is evidently meant by this rendering is Tha-t'la, water-farthest end, or French Canadian Fond-du-Lac. Ta stands for lips in Carrier, and has nothing to do with the naming of that particular expanse of water, Tha.

The error of geographers and travellers arose from the fact that, at the time of the Omineca (Emen-i-khah, the river that overflows, in Sékanais) mines,⁴⁶ a trading post had been established near the northern end of the lake, at Tha-t'la, whence outsiders came to imagine that this dissyllable denominated the whole lake, a supposition very wide of the mark. The same mistake was committed in the land of the Chilcotins, a few hundred miles to the south, where the maps give us another Tatla lake.

The real name of the would-be Carrier Tatla lake is Rhěł-re-pen, which incorporates the native word for lake, pen, leaving to -re (same in composition as -ren when used separately) its original character of a postposition, by, after, in connection with. Rhěł-re-pen is thus the exact equivalent of: Burden-after-lake, or Burden lake.

Should we now pursue still further our explorations into Carrier geographical onomatology, we shall find the main tributary of Burden lake, in fact the very head of the whole hydrographical system, which falls into the same at Tha-t'la, or Fond-du-Lac. To the whites it is, not without reason, Driftwood river, and the Indians call it just as appropriately Rhěł-t'la-ñ-khoh, the river of the "Bottom", or farthest end, (t'la) of Burden lake.⁴⁷

Returning south, it remains with us, before leaving the district, to give and analyze the aboriginal name of the village near the outlet of Stuart lake. Here we again find ourselves confronted with a local legend as the only means of explaining a geographical term. That place is now called Na-ḡra-ztli,⁴⁸ a modern evolution of original Na-ḡra-ztleñ. Both words are

⁴⁷ The n in this word is merely copulative. *Vide* The Carrier Language, vol. I: 91-92.

⁴⁸ The Nekaslay and Nekasly of John McLean (*op. cit. passim*) and other Hudson's Bay Company men, who would fain pass themselves off as knowing something of the Carrier language. Simon Fraser, who established the fort here, is much more accurate when he calls it Nakazleh (*ap. Scholefield*, British Columbia, vol. I: 251. E. O. S. Scholefield spells the word Nakasleh, p. 255 of same volume.

contractions of Etna kra peł thíztlī (or -tleñ), a phrase which corresponds to: the waters of the lake flowed off with the arrows of the Dwarfs.

In explanation of this, I need only refer to the second volume⁴⁹ of my work on *The Carrier Language*, where will be found the text of a short story according to which the mountain Dwarfs came out one day to give battle to the inhabitants of the place, when the arrows they shot off were so numerous that they were seen floating down with the current of the outlet.

This same tradition is responsible for the name of a minor stream which, falling into the lake quite close to the point where this begins to flow off, remains, for practically all its course, parallel to the main stream, or outlet (Stuart river), though, of course, running in an opposite direction. That creek has to this day kept its traditional name with the now antiquated form of Na-ḡkra-ztleñ-khoh, which the reader should by this time be able to analyze unaided.

Before we leave the district of the Upper Carriers, we may mention a locality which had at one time more importance than it possesses since the advent of the whites. This is on the south side of Lake Stuart, a place famous for the first meeting of whites and reds,⁴⁹ and is called Tsa-u-tcê, a contraction of Tsa-khoh-tcê, the mouth of the Beaver river, in the same way as the ethnical name of the southernmost sept of the whole Carrier tribe is of an analogous compound.

Those Indians are called Ł-tha-uṭënnê, or people of the Fraser river,⁵⁰ an appellation which is similarly contracted from Ł-tha-khoh-hwoṭënnê. For, despite the journal of the very first discoverer of that mighty stream, Ł-tha-khoh is its true native name, which means literally rivers (-khoh⁵¹), within, or among (tha for therh), one another (ł). This singular name becomes quite appropriate to anyone who may be stationed at Prince George, formally Fort George, where it receives the waters of its most important tributary, the Nechaco.

The Fraser is a torrential stream, which erodes on the way and carries down a vast amount of silt and sand, resulting in a quite distinctive muddiness and a "golden" color which recalls that of the Tiber of the Roman poets, while the Nechaco has, as a rule, very clear waters as behooves a stream which is born amidst and feeds upon the snows of the Coast range of moun-

⁴⁹ Pp. 514-516.

⁵⁰ Variouslly dubbed Tahowtins by Simon Fraser in his *Journal of exploration* (*ap.* Masson, *Les Bourgeois du Nord-Ouest*, vol. I *passim*). Talkotins by Ross Cox (*Adventures on the Columbia River*, vol. II: 369, after Jos. Gallagher), Taotins by a fur-trader, Donald Manson (*ap.* Morice, *Hist. of the Northern Interior of British Columbia*, p. 271 of third edition).

⁵¹ The Carrier nouns have no plural, with the exception of a few verbal ones.

tains. As this is also an important river, its junction with the Fraser is materially visible for quite a distance therefrom, about one-third of the course of the latter being almost crystal-like as it passes by Prince George and the other two-thirds remaining turbid. Seeing which you cannot fail remarking that you have there two rivers "within one another" (Ł-tha-khoh), or flowing side by side in the same bed.

And this, I fancy, must be the reason of the native name of the larger of the two.

As to the way it was denominated, after his interpreter, by Alexander Mackenzie, who, first among the whites, saw and navigated it, this has always been to me somewhat of a mystery. Tacoutche desse is the double word by which it is dubbed in his *Voyages*.⁵² If this were only Tacou-desse, I should see no difficulty in solving the problem. Desse is the Eastern Déné word for river, and Mackenzie's interpreter, who hailed from the other side of the Rockies, was evidently responsible for the use of such a term, while Tacou is as surely a deformation of Łthakhoh, such as current years after Mackenzie's passage. But whence comes the -tche of the same name?

We have already seen that, in Carrier, that particle refers to the mouth of a stream; but Mackenzie never went farther than perhaps four hundred miles from the Fraser's mouth. Moreover, -tcê (or -tche, as he writes it) is an Upper Carrier particle, and the traveller never saw one Upper Carrier. I repeat it, the name he gave that river as being the one used by the natives who lived on its banks, is to me a perfect mystery.⁵³

Before we leave this great fluvial artery and its basin to return north, we may as well descend it to the farthest point reached by its discoverer. Let us, however, previously note an important geographical element which escaped the vigilance of Mackenzie; I mean the confluence of the Nechaco with the Fraser we have just mentioned, and which its curtain of green islands seems to have hidden from his notice.⁵⁴ This junction, as well as the village and trading post close to it, are known in Carrier as Łê-itli, or the Confluence,⁵⁵ literally, they flow (-itli) within one another (Łê-).

Sir Alexander never went any farther than the place where a fort was named after him Fort Alexander, later dignified by the name Alexandria, which is to the Carriers Stê-lla, the Point, or Promontory. Then dismayed

⁵² *Voyages from Montreal through the Continent of North America to the Frozen and Pacific Oceans in 1789 and 1793*; Toronto reprint, vol. II 327, 357.

⁵³ He himself did not name it, as he thought it was the Columbia river. "The Tacoutche Tesse, or Columbia River," he says p. 327 of same work.

⁵⁴ Which circumstance shows that the explorer must have kept to the left side of the stream.

⁵⁵ In the same way as Kamloops in the Shushwap language.

by the frightful reports he heard of the lower course of the river and of its impracticability as a means of reaching the western Coast in quest of which he was travelling, he turned back and landed at the mouth of a rather humble tributary on the same side of the Fraser, the Na-z-khoh.

This is responsible for the name of the Na-z-khu-tënnë (a contraction of Na-z-khoh-hwo-tên-në), a Lower Carrier sept just north of the Łtha-u-tënnë, the Na-squitins of Simon Fraser, explorer of the whole stream to its mouth,⁵⁶ the Nas-kootins of Ross Cox⁵⁷ and the Nasco-tins of the fur-traders.⁵⁸

The etymology of the Na-z-khoh, G. M. Dawson's Nazco,⁵⁹ to-day the Blackwater river after it had been the West Road river of Mackenzie, is somewhat doubtful. The word might be derived from Etna-khoh,⁶⁰ and made to mean the river of the Foreigners, namely the Shushwaps, a hypothesis to which distance and geography do not lend much color. It is more probable that its initial element is simply the adverb na, which stands for across, in which case it would serve to denominate a stream which flows "across" land, that is from west to east, into the Fraser, and would thereby be somewhat akin in signification to the name given it by Mackenzie.

Nevertheless the Blackwater does not in reality take its source in the west. Some 32 or 35 miles from its mouth, it makes a sudden bend southwards (as we ascend its valley), receiving there a tributary which was followed by Mackenzie, who evidently believed it to be the main stream, and, by 124°30' of longitude, is joined by a creek emptying therein a chain of a few lakes, the farthest of which acquired some little notoriety in the annals of early British Columbia, under the various names of Clinches,⁶¹ Slowercuss⁶² and Cluscus.⁶³ Its true aboriginal name, or rather that of the place where a short-lived Hudson's Bay Company fort was established on its shore in 1844, is Łuz-kez, which means at the Carps, or Carp lake.⁶⁴

Then, fairly close to the Coast range of mountains and near the head of the chief tributary of the Blackwater followed by Mackenzie, there lies another small lake with a village of the westernmost section of the Carrier tribe, which the author was the first missionary to visit, in 1885. This is

⁵⁶ From Fort George down. The same calls them Nascudenees elsewhere.

⁵⁷ *Op. cit.*, vol. II: 36.

⁵⁸ D. Manson, in Morice, *Hist. of the N. I. of B. C.*: 271.

⁵⁹ Report on Explorations in British Columbia; Ottawa, 1878. The z in Nazkhoh is merely copulative, or euphonic.

⁶⁰ This is within Carrier territory, and its people had no commerce but with Carriers.

⁶¹ Cox, *op. cit.*, vol. II: 361.

⁶² *Ibid.*: 374.

⁶³ Dawson, *op. cit.*, *passim*.

⁶⁴ Cf. Morice, *Hist. of the N. I. of B. C.*: 182, 184 of 3rd ed.

Ł-ka-tco, Dawson's Ga-cho, a word difficult of translation, as its nearest approach to a meaning would be: with one another (Ł), fat (kâ), big (tco), of which the reader is at liberty to do what he pleases.

Leaving now the Blackwater and the Fraser after having retraced our steps as far north as Lê-itli, we enter the Nechaco, of which the writer is the first white man to have explored the whole course, from the double chain of beautiful lakes which give it birth to its confluence in the Fraser. The Nechaco, as it is commonly called, is in reality the Ni-tcah-khoh, a name which seems to hint at a topographical peculiarity, a most prominent bend in its middle course, which makes it flow almost parallel to its upper reaches, but, of course, in an opposite direction.

Harder to analyze than to understand by one who is familiar with the Carrier language Ni-tcah-khoh renders the concept of a stream (-khoh) which flows down against (-tcah) through a region contiguous to the hinterland where it has already passed in the rear (Ni-).

About twelve miles from Prince George in a straight line, that river receives the waters of an unimportant stream, the Beaver-Feet creek,⁶⁵ or Tsa-la-khoh, known to the whites as the Mud river, whose native name they spell Chilaco!

Chilaco for Tsa-la-khoh is bad enough; what shall we say of Bednisti given to a station of the Canadian National Railway, the sponsors of which fondly imagined they were thus perpetuating the native name of a lake close by, which the Indians call Pît-eništai, two words which mean collectively: the lake trout (pît) ate its fill (eništai)! Verily there are ears which know how to distort sounds!

Ascending now the Nechaco to the great bend already mentioned, we reach the outlet of Lake Fraser, barely a quarter of a mile long. That thirteen-mile sheet of water is known as Na-tlêh-pen,⁶⁶ among the Indians who have a village at either end. Na-tlêh, the Nantle, Natlay and Nantlais of early traders, lies at its outlet, and, at the opposite end, Stê-lla, the cape, from a sort of peninsula formed, just west of it, by the junction of two rivers. One of these is the Stê-lla-khoh, the discharge of a body of water fifty miles long⁶⁷ and scarcely ever more than two miles wide, which sits astride the

⁶⁵ The Beaver rivers are numerous in the land of the Carriers. We have already seen one which falls into Lake Stuart at Tsautce; another and more important one is crossed as you go from Fort St. James to McLeod lake, which flows into the Fraser above Prince George. To the northeast of the former, we have also a considerable body of water called Beaver lake.

⁶⁶ Pen is peñren (the full word) used in composition; pen-ket (Dawson's bun-kut) is the same with the addition of a more locative idea.

⁶⁷ My late friend, Dr. George Mercer Dawson, after whom Dawson City is named, writes in this connection: "François Lake—more correctly called Lac des Français—a translation of

54th degree of north latitude—dimensions which the reader should bear in mind if he wants to properly grasp the appropriateness of what remains to be said of the same.

The name of that lake, which extends from west to east and the extremities of which are by about the same latitude, and especially the remarkable evolution of that name at the hands of ignorant "voyageurs," or traders' employees and then of geographers, furnish us with a clear instance of "confusion worse confounded," misapprehension upon misapprehension, and, for that reason, are worth a few words of explanation.

The 1913 Government map calls it Francois lake, meaning, of course, François lake. Is that a man's name? It would seem that some cartographers thought so, since they changed it to Francis lake, under the impression, no doubt, that they were translating it into English. Yet nothing is farther from the truth. On the latest official piece of cartography it is merely an antiquated form of the word Français, or French.

Now it happens that the natives originally knew that body of water under the name of Ni-ta-pen, or Lip lake, out of consideration, probably, for its peculiar shape. But the dull-eared employees of the early fur-traders having learned, by their commerce with the Carrier Indians, that Nêto meant French, or Whites, and failing to grasp the difference between this word and Nita, gradually came to call the lake "Lac Français," or French lake, among themselves. Following suit, the younger generation of aborigines insensibly adopted that denomination, and translated this would-be translation into their own dialect, saying, as they do to this day: Nêto-pen, French lake.

François lake is a nonsense, or at least an unwarranted anachronism, on a modern publication.⁶⁸

On the other hand, the "slightly sinuous" contours of that lake, its "decided tendency to narrow at its western end," and the fact that its "two sides maintain a remarkable parallelism, following each other in their flexures so as to preserve the width of the lake nearly uniform" noted by Dr. Dawson,⁶⁹ all contribute to impart thereto the general outlines of a well-conditioned lip.

Some distance west of the outlet of Lip lake, on its south side, we find the mouth of an insignificant brook which empties therein the waters of a somewhat unpretentious, but sociologically fairly important expanse of

the Indian name Ne-to-bun-kut—has a length, according to my track survey, which was carefully checked by micrometer measurements, of fifty-seven and three quarters miles, with a width of about a mile and a half." (Report on Explorations in B. C., 47.)

⁶⁸ Morice, *The Northern Interior of British Columbia and its Maps*, Trans. Can. Inst.: 30-31, Toronto, 1918.

⁶⁹ *Op. cit.*: 47.

water. That creek not being navigable even to the Indians they "leave their canoes here and proceed overland to Un-cha Lake, which appears to be a place of some importance among them."⁷⁰

This was written before 1878. The locality is now abandoned, but it must have been the seat of a large population in olden times, if we are to judge from the "trails made by the moccasined feet of Indians long disappeared from the face of the country," which "are now, like the surface of the whole clearing, covered up with thriving plants of myrtilloid complexion, yet easily perceptible because of their depths in the sandy soil."⁷¹

The true name of the place is Huntcâ, which is rather remarkable for the fact that it refers to neither traditional incident nor natural characteristic other than that of vastness, huntcâ being a pure verbal adjective meaning "it is vast," and can apply to any space such as that of a prairie, an enclosure, a surface, or even the mouth, the concha, etc.

Close by Huntcâ lake is an elevation over 1000 feet above the surrounding country. This is Huntcâ-yes, Dawson's Huncha-yuz.

Speaking of mountains—yes being an inflection of ces, mountain—we are reminded of two in that region which have a rather remarkable genealogy. The west end of Lip, or French, lake receives the waters of a stream of no great magnitude, Na-din·a-khoh, which brings to the former those of a lake lying just south of a prominent eminence, a great landmark in the whole country. This is Mount de Mazenod, called in Carrier Na-din·a (Dawson's Na-di-na) a word which designates in common native parlance a log thrown across a creek to serve as a bridge. Mount de Mazenod is a bold peak, which rises conspicuously in a low region to the height of 5255 feet above sea level, that is 2880 above the forest, according to Dawson. But so daringly shaped is it that it seems much higher when you pass by the foot of it, as the writer has done.⁷²

The second mountain with a "pedigree" stands perhaps 35 miles to the southwest of Mount de Mazenod. It is likewise a solitary landmark in the region, a lone sentinel, as it were, mounting guard over the west end of Cambie lake. To the Indians it is Kwen-tcezh-dzel, this last syllable meaning a mountain whose summit is above the tree limit, while the other two

⁷⁰ *Ibid.*: 48.

⁷¹ Morice, *The Carrier Language*, vol. I. XIV.

⁷² A circumstance which would seem to lend color to the opinion that this beautiful mountain is higher than Dawson thought is the fact that, for quite a distance below its summit, it is entirely treeless and covered with perpetual snow. Now, according to my own barometer used when travelling over ranges two degrees to the north of Nadin-a, the tree limit, always very sharply defined, runs at exactly 5200 feet above sea level.

may have several significations, and it is put down on my map as Mount Wells.⁷³

Yet the Carriers claim that even Kwen-tcez is not its original name, but Na-hultĕ, "one that got thawed out." They have in this connection a legend, the outlines of which I give here after an account in syllabic characters just sent me by Chief Isidore of Stella.⁷⁴

According to our ancestors, Kwen-tcez is a man, who had a grandson over whom he watched with care. His name as a man was Na-hultĕ. One winter day, the old man said to his grandchild: "Behold I am going to a woman. She has a rather bad reputation. If, therefore, after I am gone, red hail should fall, thou wilt know that she has killed me."

Some time afterwards, such hail did fall. Hence the grandson knew that the woman had killed him. He therefore went himself to her, slept with her and then shot her, when it started to thaw. Then the old man became a mountain, which is now known as Kwen-tcez. The younger man was himself turned into a mountain, which we now call Na-din'a. The woman too was changed into a mountain, known amongst us as Tsĕta-ki.⁷⁵ The one which rises on the opposite side of Kwen-tcez is named Tsi-kĕz.⁷⁶

The whites have no name for the latter.

Speaking of Mt. Wells, or Kwen-tcez, might not its legendary connection with thawing explain a little incident which happened to me at the time of my first visit thereto? There was a downpour of rain, a mishap of which my companions were not slow in giving me the reason. It was, they claimed, because we saw Kwen-tcez for the first time. The old man always sends down rain on such occasions, they said. To avoid that deluge, they added, we should have done as used to do their forefathers, blackened our faces with charcoal. Then the old man would not have seen us, and would have left us alone.

Kwen-tcez is higher (at least 5700 feet above the sea) and much more massive than Nadin'a, as becomes an adult of advanced age with regard to his grandchild.

But we have tarried long enough on the origin of those mountains, the most prominent because solitary, though, of course, not among the highest, of all those I know in the land of the Carriers, together with Mt. Pope, near Fort St. James, and Mt. Grizzley (Cas-dzel), opposite Tache on Stuart

⁷³ *Vide* the map published in 1907 by the Government of British Columbia.

⁷⁴ The younger brother of that faithful companion of mine already mentioned.

⁷⁵ Signification unknown.

⁷⁶ Vermilion place, or mountain.

lake. We shall now hurry with the names of the other chief geographical elements in the basin of the Nechaco, and close.

Leaving the valley of Lip and Fraser lakes, whose waters feed that river in its middle course, we go up the same stream until a seven-mile rapid precludes all navigation. There we notice the mouth of a river scarcely more than a creek, which discharges the waters of an important lacustrine basin, St. Mary's lake, about 30 miles long, which the natives call Tses-t'la-ta, a word every syllable of which is intelligible, but which leaves one in doubt when it comes to giving the sense of the whole.

A few miles from its outlet, we find an Indian village, Pê-lka-tcek, at the mouth of a stream which carries off the contents of a smaller lake, Pê-lka-i-pen, or the lake (pen) wherewith (pê) one gets fat (lka).

Something like 20 miles overland and due south, we fall on a forked lake, La-tha-lkreẓ, (as the branch in part of Burden lake), the eastern end of which sends out the important river which is thenceforth called the Nechaco. Above that point, its waters run in two channels, forming, from either branch of La-tha-lkreẓ, or Simonin lake, a V-shaped double chain of lakes, of which the uppermost two finally approach one another until they almost touch. These are the real sources of the Nechaco. Let us briefly enumerate their native names, and thereby put an end to our hydrographical sketch of the Carriers' territory.

That V-shaped or funnel-like double chain of lakes extends from the west, where it bathes the feet of the Coast range of mountains, to the east, where its two branches unite in Lake La-tha-lkreẓ. The first after the north branch of that sheet of water is a smaller lake called Flat, whose native name I forget. Then, after another connecting piece of river, we have an important expanse of water, Cambie lake to us, Yû-tsû to the Indians. This last vocable hints at a great distance, Yû, down in the direction of a piece of water, tsû (a relative of tsen, the proper word).

After having traversed Cambie lake in its greatest length (48 odd miles), we ascend a stream which falls into it from the southwest and, some distance therefrom, receives the blue waters of a tributary which brings it those of a beautiful lake ensconced within steep mountains and called Tha-lḏza' by the Indians. I gave it the name of Emerald, for a reason which I scarcely need explain.⁷⁷

Then, proceeding up Yûtsû's tributary, we finally enter a last lake on that side of the chain: Hwêsel, whatever that may mean, which is now known to us as Dawson lake, as rough, if not dangerous, a sheet of water

⁷⁷ Tha-lḏza', a contraction of Tha-nlḏza', means Water far off.

as its homonym, a friend of mine in England, is meek and gentle. This terrible lake, from the depths of which emerge, as it were, the snow- and glacier-clad Coast range of mountains, is, on its south side, connected by a three-quarter of a mile portage with the most beautiful expanse of water in British Columbia, the first, or highest, of the second, or southern, chain.

This I discovered on the nineteenth of September, 1895, and, after I had called it Lake St. Thomas, my companions persisted in naming it after me when they had realized its generous dimensions. So it has ever since remained to the Indians when they speak to the whites. Morice lake is the so-called Eutseuk of the old Government maps, a word which not only is not known in the country, but is as un-Carrier-like as possible, the eu sound being foreign to the language of the people in whose territory it is situated. Its native name must have been given by the inhabitants of Fraser lake, since it is Etê-auh Yûtsû, or the farthest Yûtsû - farthest from the latter region.⁷⁸

Then gliding along that new chain of lakes, we have in succession Nahterh-î-pen, as if one would say the lake which wipes off, Thatcek-pen, Lake Tache, and we get to the southern branch of Simonin lake, with the conviction born out of our little survey, that Carrier geographical names must, as a rule, be very old because now so hard to analyze.

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⁷⁸ Morice lake is remarkable for not only the existence of the biggest island in British Columbia, but by the length of its native name Ukwe-ses-nê-re-thel-krêh-nu, "the island over which the black bear uses to escape us," literally, to run away from us, whereby the Indians mean that so large is that island that a black bear over it can gain over us sufficiently to be ultimately lost to us.

A DISCUSSION OF THE GATES CLASSIFICATION OF MAYA HIEROGLYPHS

By HERMANN BEYER

IN THE prospectus announcing his book: *An Outline Dictionary of Maya Glyphs, With a Concordance and Analysis of their Relationships*,¹ Mr. Gates states it to be the outcome of thirty years of study of the Maya hieroglyphs. When I commenced reading this costly publication I realized very soon that its author must have written it about twenty years ago, only adding a few phrases to modernize it. The important literature relating to Maya glyph interpretation during the last two decades has not been utilized; Mr. Gates begins the study of Maya hieroglyphs not with their oldest types as represented on the carved monuments, but with their latest as depicted in the codices. On the whole, the short treatise is faulty in method, full of errors regarding well-known facts, and abounds in mistakes in cross-references.

Such a general condemnation must, of course, be backed by incontrovertible data. These are, indeed, at hand and will be adduced in abundance for every point to be discussed.

Let us treat first some questions of methodology. We have at our disposal thousands of carved hieroglyphs on the monuments of the so-called Old Empire and we have again, in the Codices, thousands of characters of the last period of Maya writing. Gates uses only the hieroglyphs of the three Maya manuscripts; that is, he commences at the end of the history of Maya script, instead of at the beginning. It is clear that the ancient forms must be the less conventional, less changed; and those nearer the origin, the more natural. We must scrutinize precisely the most ancient, the most primitive, forms if ever we expect to find the original meaning.

Although we possess by now thousands of hieroglyphs, there are generally only a few—and sometimes only one—variants that give us a hint as to the object or concept for which it stands. Beforehand nobody can tell which form will be useful and which indifferent for scientific progress. It is thus a wrong policy voluntarily to exclude from consideration a large body of hieroglyphs, as does Mr. Gates with the monumental variants. This means limiting the material, which in the present state of our knowledge is barely sufficient for serious detail work.

Each sign which Mr. Gates regards as a root glyph receives a number. The arrangement of the variants under the number heading and the grouping of many sections is made on the basis of their similarity in external form. This is the simplest method in dealing with different figures, but it

¹ XII, 174 pp., Baltimore, 1931.

may bring together hieroglyphs which have some external resemblance, yet might differ fundamentally in significance. For any classificatory system this method will be used at the very beginning of the study, but it should not be its end. The results of such superficial classifying are too meagre to justify their publication in a costly volume.

Very elementary as Gates' tabulation of the codex glyphs is, it would be of some value if we would find all identical and similar signs brought together there with the page reference to their location. He has, however, spoiled that help by a cumbersome system of references. Instead of indicating the page and its subdivision of the respective codex, he gives the place of that glyph in the tzolkin (tonalamatl) that accompanies the series of pictorial representations. Thus one has to use his reference table first, in order to find the place where a certain glyph appears. Even in these references there is no clear system. I tried, for instance, to locate the last glyph of the first line on page 1, which has the classification 1a. 2. Turning over the leaf I looked through the references, but did not encounter that particular number. Thus I used my own notes and located the glyph on page 36b of the Dresden Codex. Then I consulted Gates' Reference Key Table for the section or Tzolkin that embraces page 36b and found this to be 60 b c d. With these new data I went back to the references on page 2 and now it became clear to me that the desired reference was ^{1.2a.}D.60.b.3. That such a cumbersome way of verifying a hieroglyph is impractical, needs no further emphasis.

The fact that the Dresden and Madrid codices contain many tzolkins accompanying pictorial representations has been known to specialists a good while. In 1887 Pousse had clearly recognized the periods of 260 days that form "chapters" in the codices.² At the same time also Förstemann dealt with this period and has his commentary of the Dresden Codex based on these subdivisions. The Tzolkin chapters are fundamental for the interpretation of the respective codices, but they need not be used as references for glyphs.

Mr. Gates gives to all his hieroglyphs a thin outline, which would be quite right for sculptured characters, but which is incorrect for written forms. The broad outline these signs have in the codices is not incidental, but belongs to their very nature as graphic characters and must not be neglected in their study.

One of Gates' erroneous suppositions is that the day-signs are elementary hieroglyphs (p. 60) which can be utilized for the formation of a root-

² A Pousse, *Sur les notations numériques dans les manuscrits hiératiques du Yucatan*. Archives de la Société Américaine de France, ns, 5: 16 ff.

vocabulary. These signs, being of constant use not only in calendric matters but also in mythologic parts of the codices are, indeed, relatively simple conventional figures, but they constitute by no means a class of hieroglyphic elements. On the contrary, most of them are combinations of two inde-

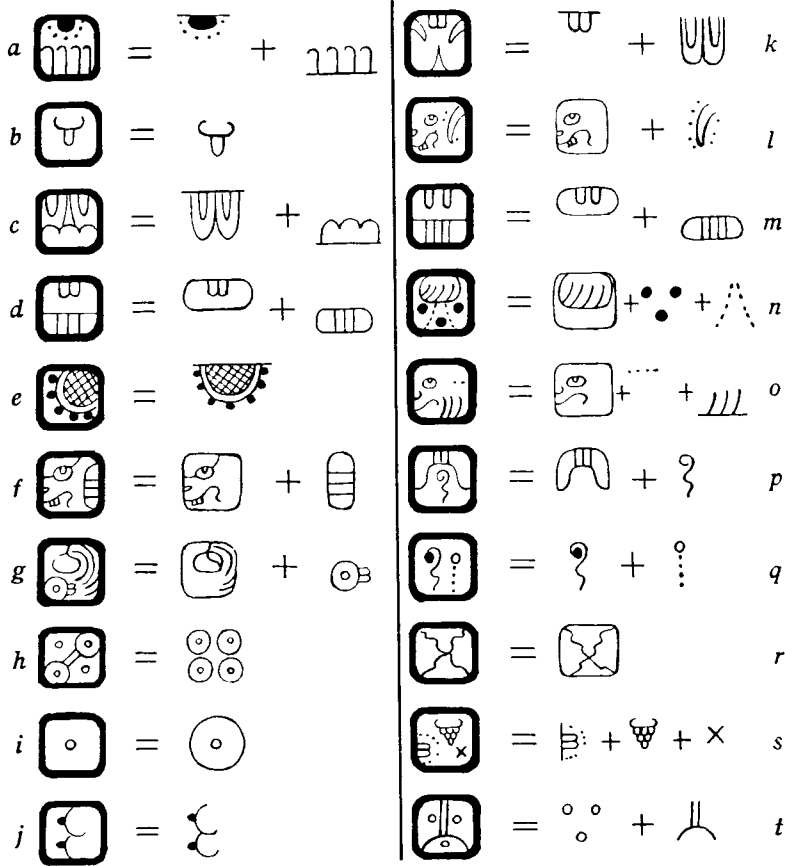


FIG. 1

pendent glyphic characters, as can be seen in figure 1, where the twenty day-signs are analyzed.

In some glyphs (Imix, Cib, Caban, Cauac and Ahau) the elementary parts are of nearly equal size, but in others they differ so much that one sign must be regarded as the principal glyph and the other one as secondary. Such cases are, for instance, the two variants of Cimi. The one in the Table must be taken as a sketchy drawing of a skull, which has a small oval with

lines inserted in the posterior part. The second variant of Cimi represents a dead man's head with closed eye (figs. 2 and 3). In figure 2 an elementary sign consisting of two teeth or beads is added joining a line which connects the upper margin with the mouth line, while in figure 3 this element is made up of one white and two black beads. An intermediate size is represented in Akbal, Kan and Ben, one element being somewhat larger than the other, but they are evidently of equal importance. Accepting this evaluation, we



should have only two subdivisions in the group of hieroglyphs consisting of two elements, one including those of a main sign and a secondary element (the two Cimi variants, Chuen and perhaps Manik) and the other subdivision containing all those glyphs whose two components are of equal value (Imix, Akbal, Kan, Eb, Ben, Cib, Caban and Ahau). Although this classification and the simple conclusions drawn from it seem to be hardly worth while, they are nevertheless of importance. There are, for instance, variants of Kan (see fig. 4) where the size difference of the two elements is enormous and yet, as we now know, of no significance.

Combinations of three elements are employed in the hieroglyphs of the days Ix-Men and Cauac. Ix consists of (1) an eye with lid, (2) three black disks, and (3) two dotted lines. In Men we have (1) a human face, (2) a dotted line, and (3) a series of curved strokes. Cauac is composed of (1) two teeth with dotted curve, (2) a body of circlets, and (3) two crossed bars.

In one hieroglyph, Lamat, four elements compose the original form of the glyph, and in some variants from the time of the preserved codices (fig. 5), the quadruplicate construction of the sign is still maintained. Now, we have Ik with one tooth in the standard form of the tabulation, but it occurs also with two and more teeth. A variant with four teeth is given in figure 6. Our two Ik forms are only variants of the same day-sign. Lamat, on the other hand, cannot be classified as an occasional quadruplicate variant of a simple disc. All four discs are essential in this case. The one disc form has an independent existence; it represents another day, namely Muluc.

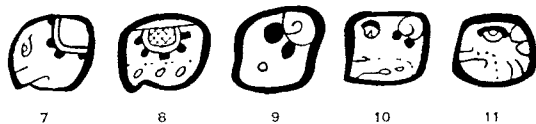
The black detail with dotted curve in Imix and the teeth with the same dotted line in Cauac have been taken as units, although they very well might be considered as compound elements. In that case Imix would con-

sist of three and Cauac of four elements. Yet, as there is reason to consider them as mere variants of their simple elements (a black disc in Imix and two teeth in Cauac), it seemed more adequate to value them as hieroglyphic units. Perhaps also the dotted lines in Ix should be taken as a detail pertaining to the three black disks. However, in this case conditions are somewhat different. While the black disk with dotted curve and the equally adorned teeth-element are used also in other hieroglyphs, the three discs and some dotted lines appear only in Ix. We see everything depends on the point of view. The only safe statement that can be made is that the day-signs just treated are not fundamental glyphs, but compounds of two or more independent elements.

It might also seem an arbitrary distinction to classify the Cimi variants as compounds of a main sign and an accessory detail, while the formally similar Eb was classified as the combination of two elementary signs of equal value. With Eb, however, the dotted part is important, while the face can be reduced to its lower jaw, this being the essential detail of the forepart of Eb.

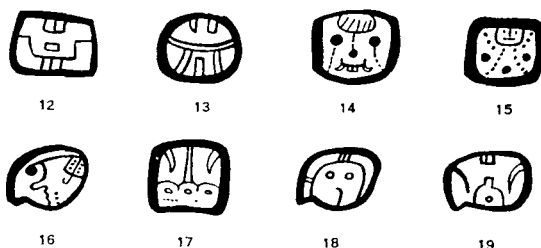
There would be only five glyphs left, which surely represent one single object or figurative detail: Ik, Chicchan, Muluc, Oc and Eznab. If we conceive Akbal as a segment of the celestial serpent covered with pairs of greenstone discs, we can add this sign to the list. There are, however, other compound glyphs which show us that the Maya used the serpent segment or the belly scales as a hieroglyphic element. Conceptually, Manik might be one thing, the rich man's hand, the hand adorned with a greenstone disc. There is, however, the other alternative that it really might be composed of three elementary glyphs, (1) the hand proper, (2) the perforated disc, and (3) the two teeth joining the disc. Lamat, although composed of four elements, might well be added to the list on the ground that its four discs represent one concept.

Thus, at the utmost, we should have eight simple day-signs. In the interest of scientific accuracy it must, however, be said that our first enumeration of five elementary day glyphs is somewhat one-sided, as it deals with the variants most favorable for the Gates' hypothesis. In reality several of these day-signs have numerous variants with two and even three elementary parts. Chicchan, for instance, is quite often found with the features of a human face (fig. 7). In figure 8 it has added to it a dotted line



and a symbol consisting of three tilted ovals. The original form for Oc was a dog's head, but in the time of the codices it was simplified to the ears and two black spots of the animal as seen in figure 1j. In figure 9 a circlet is put in the lower forepart as a symbol referring to a quality of the dog as mythologic animal. Thus this variant, notwithstanding its simplicity, consists of two independent elements. The complete old form is found occasionally also in the codices (figs. 10 and 11). Figure 10 has an additional circlet and figure 11 two curved strokes, the same symbol we have also in the lower part of Imix and Men.

The other day glyphs also were enriched by details that sometimes were mere space-fillers (figs. 12 and 13) or fanciful additions (figs. 14 and 15),



but often symbols in agreement with the significance of the glyph (figs. 16–18) or useful variations to make the sign better distinguishable from similar forms (fig. 19).

The reverse, simplification, also was practiced, as figs. 20–23 demon-



strate. Figure 20, although consisting of three graphic elements, represents one idea, a symbol pertaining to the death-god. It stands for Cimi which, as we have seen, is generally rendered by a skull or a dead man's head with a small additional symbol. For Cauac two impoverished variants are given (figs. 21 and 22). At last, Ahau with only three graphic elements is reproduced in figure 23.

If we want to draw a few general conclusions on the basis of the material here used, we can say that the twenty hieroglyphs of the days of the Mayan month do not form a series of signs constructed on the same principle. We had signs that were elementary glyphs, others that were not, but composed of two, three and four elements. Not only that, even the variants of one and the same day-sign can differ in the same way of being simple or com-

pound. In Muluc we have the extreme in simplicity and in Cauac the greatest combination. Some variants are more similar to another day-sign than others. Compare in this sense Ben and Kan of figure 1 with Kan, figure 4 and figure 12, or Akbal and Chuen of figure 1 with Chuen, figure 19. The Cimi of figure 1 is absolutely dissimilar to the Cimi of figure 20, while this vaguely resembles the Ahau of figure 1 and figure 23. Chicchan can add a human face without changing its significance (fig. 7), while Cauac can lose elements (fig. 21 and 22) without harming its value. Sometimes one essential part is more important than the other. Thus Cib can be indicated by the scroll alone, and Ahau by the three circlets. Some day-signs preserve practically the same form during many centuries (Imix, Ben and Eznab), while others suffer considerable changes in the course of time (Chicchan, Lamat, Oc and Cib).

Any science, not Maya archaeology only, must use assumptions, conjectures, hypotheses and speculations in order to connect and interpret the raw material. Therefore, Gates' animosity against any sort of speculation seems to me quite out of place.

To select a few of his derisive remarks I quote from page ix of the Introduction:

The Maya problem . . . calls . . . not for guess work, esoteric interpretations of this or that stroke in this or that day-sign, and imaginative assertions about the most treacherous of all subjects—far past origins. He who transcends history invites a fall.

Gates pretends that his work

is in no way an effort to 'read the glyphs' by mental processes and speculation (p. x).

He felt that the first great need and task included "the incidental lightening of the trash" (p. xii).

On page 20 he

rejects as a principle of procedure any guessing at what a glyph may or might mean, because of what it *seems* to look like. Every attempt on those lines so far has produced nothing lasting, and has only muddled the waters.

Speculation is worse than useless (p. 82).

This condemnation of speculative methods, however, refers only to the other fellow. When Mr. Gates himself wants to indulge in speculation, the case is very different, and then he finds words of appreciation for what otherwise he would abhor. An example for his changing attitude is found on page 143, where he thinks that

in all research, interpretation of phenomena, forms, or code reading, a preliminary and tentative 'guess' or hypothesis is a necessary step.

Mr. Gates has collected many books and manuscripts on Maya languages and has done some research work in that line. Thus it was to be feared that he would overemphasize the philologist's viewpoint. That is, indeed, the case, as a quotation from page VII may show:

I have quite often rendered a glyph into the modern Maya that interprets it; but it is only to add a fuller Maya flavor to the work, and to stimulate and show the value and necessity of Comparative Mayan linguistics if we are to advance.

We find such doubtful Neo-Maya terms used on different occasions. It is, however, rather his general mental attitude to which I object as dangerous to a sober treatment of hieroglyphs. Coming from linguistics, he talks too much of "word-formation," "appellatives," "adjectives," "plural," "syntax," etc. as applied to the Maya glyphs. In the general considerations on pages 24-25, linguistic terms and aims of study are paramount.

In this connection I may be allowed to discuss briefly the general purport of the Maya hieroglyphs, which evidently are written according to rules inherent to the system as a graphic creation and have nothing to do with spoken language.

To begin with, I think, that we can all agree to the thesis that a Maya codex could be understood by any educated member (that is, priests and nobles) of any Mayan tribe, even if his dialect or language was very different from the scribe's. An exception, of course, must be made with the separated Huastecans who did not share the civilization of the southern tribes. For them a Maya book was as meaningless as it was for an Aztec.

In being understandable by people participating in the same civilization, although of different speech, Maya hieroglyphic writing is like Chinese script. But with this trait the similarity ceases.

Mayan hieroglyphs were not so far developed as to allow the rendering of real texts in the sense of actual speech, of continuous discourse. All compound hieroglyphs (which occupy a quadrangular unit of space) were in general independent of each other and could be arranged in different ways. So far as we know, relation between the glyph units consists on the monuments only in their reference to a date and in codices in their reference to a deity. What we really have are short expressions, symbolic formulas which can be combined in different ways. A literal translation of each glyph hardly would give sentences, but independent statements, loosely connected by indirect references to a common time point or to a personified force of nature.

Now a few concrete cases which can be treated without much discussion, as the examples are taken from the well-known calendric material.

The head of the dog with black spots stands generally for Oc (figs. 10

and 11), but a few times, provided with a certain affix, it means Xul (fig. 24). This affix, called the "wing" sign, sometimes accompanies the sun disk in the hieroglyph Yaxkin. While the presence or absence of this detail is of



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no consequence for Yaxkin it must be employed with Xul. Without the "wing," figure 24 would mean 13 Oc.

Analogous to Yaxkin, the month glyph Tzec has in figure 25 a postfix which can be of no importance, because the other variants of Tzec in the Dresden Codex do not possess it.

The uinals Pop, Kankin and Kayab have this Plume sign always in the Dresden Codex,³ but it has not the same function as the affix of the Xul variant. The hieroglyphs that in calendric passages refer to Kankin and Kayab, are used also for other compound glyphs (figs. 26 and 27). In these cases they are distinguished by new affixes. With Pop the Plume affix is superfluous for clarity, as the sign without this affix would be as precise, there being no non-calendric glyph corresponding to Pop. These occurrences, however, must not be used to draw the conclusion that the Plume affix does not serve as a distinguishing sign at all.

In figure 28 the subfix is just as necessary for the reading of the glyph as the subfix in Xul. Without the Plume, figure 28 would mean the day "3 Oc," while in reality it is a non-calendric glyph.



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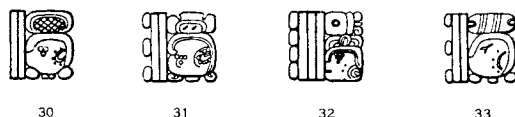
Evidently neither in Yaxkin nor in Tzec do the affixes change the meaning or sounds of the simpler variants. They are only dispensable additional elements which are in consonance with the general significance of the respective main signs and which can be left out or used, just as the scribe pleased or space conditions suggested. That is how things are in these as in many other verifiable cases. Linguistic considerations lead astray.

With Xul the situation is different. Figure 24 must have the subfix to assure it its significance. For the common form of Xul (fig. 29) a subfix is not absolutely necessary, as this dog's head is somewhat different from the Oc glyph. The day-sign Oc is indicated always by the spotted dog, while Xul generally has the head of a white dog with Double Tun symbol in the upper part. The addition of an affix surely makes the reading of the sign much

³ There is only one exception, Kayab on p. 46, without the affix.

easier and safer. Thus again the graphic aspect of the hieroglyph is concerned.

The one-syllable month names Chen, Yax, Zac and Ceh (Chac) are represented by compound hieroglyphs (figs. 30–33) whose main sign has



nothing at all to do with the respective words. These refer exclusively to the superfixes. These mean Black, Green, White and Red. Two of the month names (Yax and Zac) have the same signification in Maya, one (Chac) has it in a related dialect. Its Maya name (Ceh) means Deer, probably because the Deer is the *Red* animal. Analogously Chen, Well, might signify the *Black* waterhole.

Chen sometimes has the black detail put into the main glyph (figs. 34 and 35). Similarly the glyph for Uo fairly often incorporates the sign



“black” (fig. 36), which in other cases is used as superfix (fig. 37). In some instances Uo has a new subfix (fig. 38). Then the sign Ek, generally used only in affix form, is employed as the main part of the compound glyph. It must be admitted, however, that figure 36 can also be conceived as a complete hieroglyph for Black, which in its lower part has inserted the sign crossed Bands.

While Uo fairly often incorporates its affix (the sign for “black”), Zip, the following month, never does the same with its affix (the sign for “red”), although both glyphs have their usual main-signs in common (compare figure 39, Zip, with figure 37, Uo).

For these and many other irregularities plausible reasons can be adduced when we consider Maya script as a writing system with its own rules. On the other hand, linguistic peculiarities have their proper causes which are wholly different from those of the realm of graphic signs.

The complete hieroglyph for “black” (*cf.* fig. 37, superfix, and fig. 38, main sign) contains a disc, with a circlet. This perforated disc often incorporates other signs.⁴ That is why in fig. 36 the crossed bands are inserted

⁴ Beyer, *The Analysis of the Maya Hieroglyphs*, IAE 31: 6, Leyden, 1930.

in this part. The real essential element for "black" is a simple black oval or arch. In some cases, especially with the hieroglyph Chen, only this element is incorporated (figs. 34 and 35). The sign for "red" (superfix in fig. 33), on the other hand, is too complicated either to be incorporated or to have another glyph inserted.

In Pop (fig. 40) and Kayab (fig. 41) we always find an infix whose name



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we know; it is Kan, "yellow." It does not, however, enter into the words. On the other hand, Kankin has it as first syllable, but the hieroglyph (fig. 42) does not contain it.

Zotz, "Bat," is the word for the animal whose head is reproduced by the hieroglyph (fig. 43). It has, however, always the Double Tun glyph (erroneously generally named Akbal) as infix; in most cases as well in the upper part of the head as to the lower right side.

Pax (fig. 44) is a variant of a well-known period sign, the Tun (fig. 45). Tun might be identical or similar to Haab⁵; but in neither case is there any possible relation between the words and the sign.



44



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46

Cumhu (fig. 46) has as main sign the hieroglyph of the day Kan. Again no similarity can be constructed by linguistic means.

Thus, working with the month glyphs, we are already well able to show that there is no uniform employment of main signs and affixes corresponding to roots or stems and affixes in language. The rules of Maya writing are not those of Maya speaking.

Returning to the Maya day-signs, we can demonstrate in a few more instances the fundamental difference between spoken words and written hieroglyphs. The Old Empire form of Oc was figure 47, while the usual glyph for this day in the last period was figure 48. That means that the ancient complicated form, the entire head of the dog, was simplified into a much shorter sign (the ears and two black spots) in later times. Did there correspond a similar simplification in language to this change



47

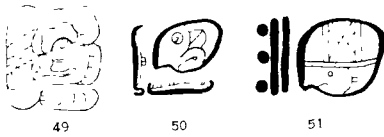


48

⁵ Consult, on this point, Richard C. E. Long, *Some Maya time periods*, ICA 21: 575-580, Göteborg, 1925.

in the hieroglyph? Evidently not, because specialists consider Oc an archaic word. Then, in language conservatism prevailed where a progressive spirit dominated in script.

Similarly the main sign in figure 49 is again the Dog's Head, but with a symbol consisting of a slightly curved line with two teeth. The later form of the hieroglyph is seen in figure 50. In this case the dog's head is also simplified, but not in the manner used with Oc, where the whole forepart of the head has been dropped. A much greater simplification than in figure 50



has taken place in figure 51, where the abbreviated sign occupies the lower half of the compound glyph. Most probably in this case the sign "Dog-teeth" was not mentioned at all in the

word for this hieroglyph, which probably was "13 Heavens."

Mayan words have a much longer history than Mayan hieroglyphs. The Huastec language might be used very well for etymological studies, but it had no influence on the hieroglyphic subject-matter. We can already give the outlines of the life-history of the written characters,⁶ but only by highly speculative methods can we attack the similar problem of word origins.

There are, of course, relations between the spoken words and the written symbols, but they are in most cases only indirect. Ideas were rendered by signs consisting of sounds (language) as one system and by signs consisting of graphic elements (hieroglyphics) as another. Not necessarily every elementary glyph was the parallel of a phonetic unit, nor had every word of the Maya tongue a corresponding hieroglyph. While language covered the whole ground of Maya thought-expression, hieroglyphics embodies only religio-scientific matters worked out by specialists.

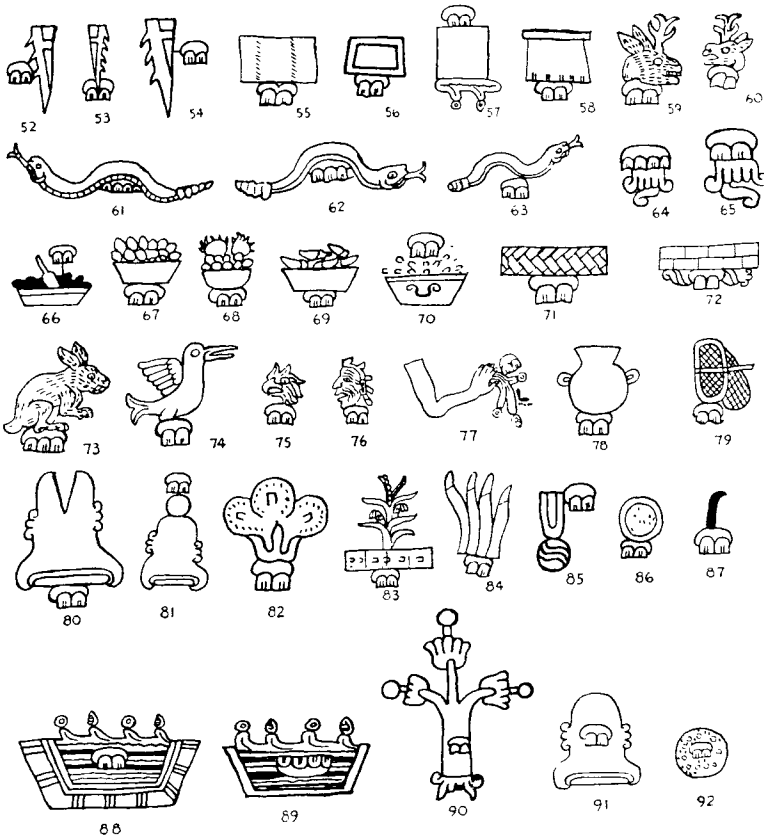
That language sometimes directly influenced written characters can also be admitted, but it must not be concluded that this relation was the only one between the two systems. Certain peculiar cases show, on the contrary, that expressions were created by the influence of the written signs on language. One of these instances seems to me represented by the Chol word Ahau-an, to which Mr. E. Noyes called my attention. It is composed of Ahau with a verbal ending and means—according to Fray Francisco Moran—"volverse boca arriba," that is, lying and turning around face upwards. The peculiar form of the hieroglyph Ahau (figs. 1t and 23), resembling a human face in front view, evidently suggested the word. It is obvious

⁶ See my paper, *The Stylistic History of the Maya Hieroglyphs*, Middle American Research Series, publication no. 4.73-102, Tulane University of Louisiana, New Orleans, 1932.

that the word cannot have been invented before the peculiar Ahau glyph existed. The word presupposes the hieroglyph and not *vice versa*.

After these general considerations and reflections we shall now peruse the Gates treatise, discussing some of its doubtful and erroneous passages in detail.

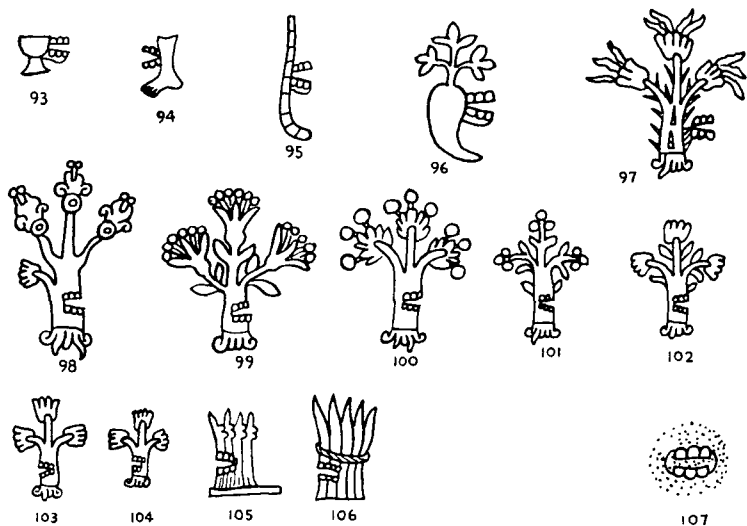
The sweeping statement that Aztec hieroglyphic script "was not rebus-writing at all" (p. viii) can be refuted by a good many compound signs from Mexican codices. The very common locatives -tlan, -tzinco, -pan, and -nahuac are rendered by objects whose names have the same or very similar sounds, but whose meaning is absolutely different.



Figures 52-148 give a number of hieroglyphs, all occurring in the so-called Mendoza Codex, containing the mentioned postpositions and a few others. Thus figure 52 is not to be read "Teeth-Spine," nor are figures 53 and 54 "Spine-Teeth," but all three are variants of the place name Huitz-

tlán, "In the Spines," "Near the Thorns." All the similarly constructed town names, figures 55-87, have the syllable *-tlán* indicated by two or more (figs. 61, 62, 64 and 73) teeth, because Tlan (tli) is the word for Tooth. In most cases the ending syllable *-tlán* is put as suffix, but it occurs also as prefix, superfix and postfix. In the last row (figs. 88-92) *-tlán* is put into the interior of the main sign; that is, it is used as an infix.

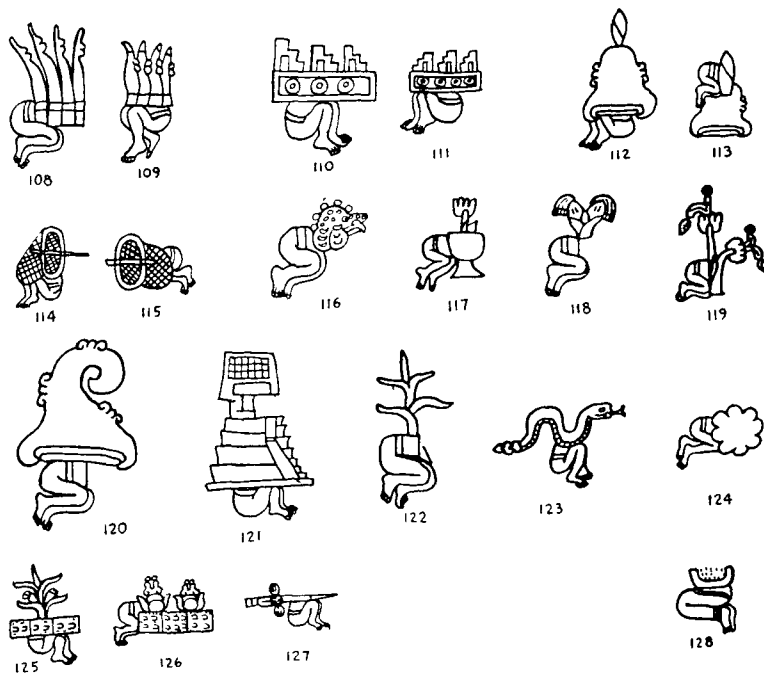
In figures 52-54 we had three versions of Huitztlan. Figures 55 and 56 are two variants of the town name Yancuitlan. In figures 57 and 58 the main sign is a quadrangular piece of bark paper. The head of the deer stands for the whole animal in figures 59 and 60, Mazatlan, "Place of Deers." In the following three hieroglyphs the animal figure is given in complete form, and this happens also with figures 73 and 74, while figures 75 and 76 again give *pars pro toto*. Figures 64 and 65 are again two variants of one place glyph, Mixtlan, "In the Clouds." While the variants for Huitz-



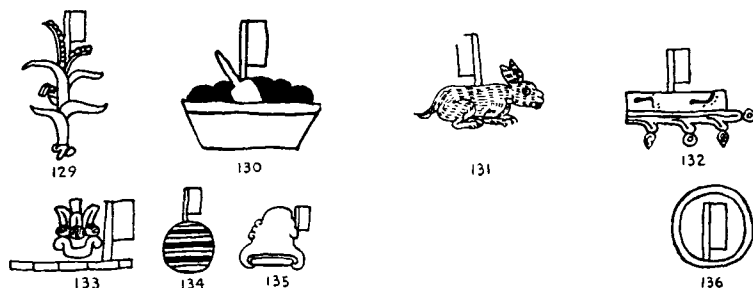
tlán (figs. 52-54) demonstrate that the position of the secondary sign is unimportant, figures 64 and 65 show that the number of teeth is irrelevant.

Another variant of *-tlán* has the double row of teeth. In figures 93-97 they are drawn apart from the other glyphic character, while in figures 98-107 they are inserted. So we can again classify the teeth of figures 93, 95, 96 and 97 as postfixes, those of figure 94 as prefix and the rest as infixes. While the set of teeth is seen on one side of the main sign in figures 98-106, it occupies the central part in figure 107. In the first variant of *-tlán* (figs. 52-92) the few teeth are drawn with the gum, but the second variant (figs. 93-107) has only the rows of bare teeth.

The syllables *-tzinco*, a diminutive and a locative are rendered rebus-like by Tzin(tli), the hind part, the buttocks. Variants of the same place

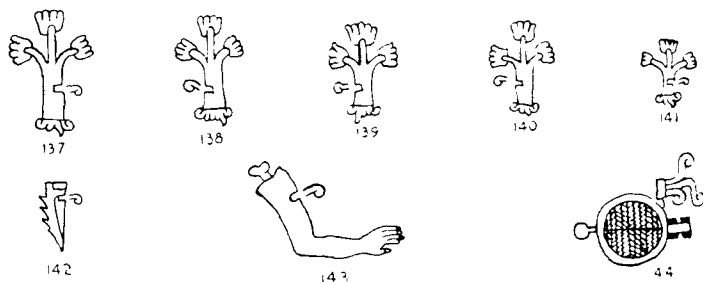


names are reproduced in figures 108 and 109 (Tulancingo), figures 110 and 111 (Tenancingo), figures 112 and 113 (Tecpatzincó), and 114 and 115 (Matlaltzincó). The rest of the place hieroglyphs are singular specimens in the Mendoza Codex, but variants can be found in the Libro de Tributos and other sources. In figure 128, the hieroglyph of Nantzintlan, *-tzin-* is not represented by the lower body of a male as in all the other glyphs of this section, but by that of a woman. The reason for this deviation is that Nan(tli) means "mother."



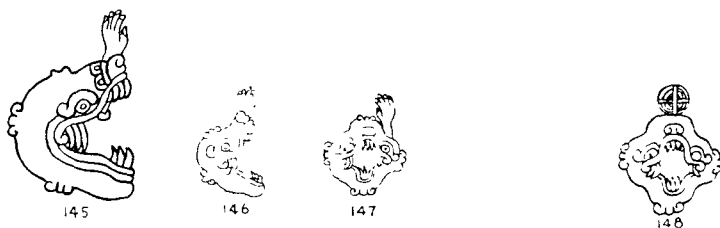
Pantli, the "flag," the "banner," is the rebus for *pan*, "over." In most of the cases (figs. 129, 130, 131, 132, 134, and 135) the flag is used as superfix, evidently intentionally in order to enhance its meaning "above" in this connection, only figure 136 had it clearly as infix.

Nahuatl means "clear, intelligible speech" and is rendered by the peculiar sign for Voice. In figures 137-141, the place name Cuauhnahuac (the



present corrupted form is Cuernavaca), in figure 142, Huitznahuac, in figure 143, Acolnahuac, and in figure 144, Yaonahuac, it indicates the syllables *-nahuac*, "near," "on the outskirts," "on the border." Generally a simple sign, it is quite elaborate in figure 144.

Oztoman, "Where there exists a cave," is represented in figures 145-147 by the open cavity of the earth-monster's mouth (Oztotl) and a human



hand (Ma[itl]). Ma[itl] is used as similar sounding word for *man*. The first two figures give the Cave in side view, while the third presents it in front view.

Icpatl means "thread" and stands in Oztoticpac (fig. 148) for the position *-icpac*.

The Mexican Body of Hieroglyphs is a collection of ideographic and ikonomatic root-glyphs as main constituents. There are still some other writing principles, but they are of minor importance and do not concern us in this connection.

Although our examples are taken from only one Mexican codex they

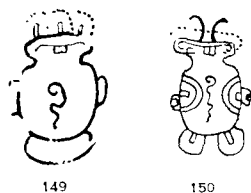
form quite a bulk of material and show clearly that we are not dealing with a few exceptions, but with a common feature of Aztec hieroglyphic writing.

For the sake of simplicity and economy the Aztec hieroglyphs are here reproduced only in their black lines. This expedient, however, represents them incomplete, their full form being with coloring: that is, as illuminated drawings. There is a fundamental difference between Aztec and Mayan script. The Aztec had a system of polychrome drawing whose units are stylized objects, while the Maya possessed a real writing system, consisting of monochrome conventional signs.

Imix is translated or interpreted by Mr. Gates as Sea-dragon; Water. Wine (p. 1). The etymology is obscure, but at least so much is sure: none of these three nouns has anything to do with Imix. The reasons for the explanation as Water or Wine are given on page 20, where the glyph compound Kan-Imix is treated, and it is said that Imix

carries the specific value of drink or wine, product of the maguey, as well as water generally.

The product of the agave, the pulque, has been and is the favorite drink of the Nawa and Otomí tribes of central Mexico, but it is practically unknown among the Mayas. The Maya nations were fond of Balché or Ci, mead preparations. There is, however, not the slightest proof that this wine was indicated by the hieroglyph Imix. On the contrary, where drink offerings are represented they are connected with the day-sign Cib. Figure 149 most probably represents a vessel with wine. The hieroglyph on top of the jar is a common symbol for fire, and figure 150 seems to have two conventional flames issuing directly from the mouth of the jar. By this the liquid is indicated as of fiery nature. In both cases the vessel is decorated with a cork-screw line, which is the characteristic part of the glyph Cib. The word Cib is possibly related to Ci as pointed out by Professor Seler.⁷



The variant 1a of the Imix glyph has, in Gates' drawings, an outlined oval instead of the usual solid black detail in the upper part. In reality—that is, in the written hieroglyph of the Dresden Codex—nr. 1a. 2 has the black detail with a small white spot in the center, accidentally not being filled out completely, while 1a. 2a. 1 possesses in the original document the usual solid black element. The variant invented by Gates, therefore, is exaggerated in one case and wholly wrong in the second (Cod. Dresd. 38b.).

⁷ Eduard Seler, *Der Codex Borgia*, 1. 142, Berlin, 1904.

Gates (p. 2) calls figure 151 "knot or tie" and compares it with the red ties used for subtraction in the Dresden Codex (figure 152). These latter ones are, in fact, bands or straps, and they occur in nrs. 59.13 and 115.1 of the Glyph Dictionary. Figure 151, however, has nothing to do with this



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152



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tie, it is a composite character which appears constantly over the beak of the vulture (see Gates' nr. 222), for which reason I have called it the Vulture Sign. Both hieroglyphs are very well distinguished in the inscriptions and in the manuscripts. To confound them shows a lack of feeling for differences, regrettable in this kind of work where such formal criteria must be constantly observed. The real Tie, employed as subfix, is used in figure 153, of which Gates gives a conventional drawing on page 62 (nr. 32?. 5. 1). In this illustration the subfix, however, is erroneously drawn like Zac.



154

Figure 154 is not a "female figure" (p. 5), but that of a male, as the *ex*, the man's loin-cloth is clearly represented. What happens is that the draughtsman of the Codex Dresdensis often traces the male breast with a graceful curve, but still quite differently from the female's breasts, which are much more voluminous and always have the wart indicated. The bluish-green coloring of the background is interpreted as "sea." On representations of water in the Dresden manuscript are employed darker wavy lines in either vertical or horizontal position, the horizontal ones evidently referring to water in that position (we notice persons in boats depicted on it), while the vertical streaming water is down-pouring, thus most probably rain. In another case treated a few lines below, Gates quite adequately speaks of a deity "standing in torrents pouring from a constellation band." Therefore, figure 154 also must be regarded as in the rain and not in the sea.

The head of the Rain-god, Chac, with the body of a serpent, decorated with perforated discs, is produced by Gates, who thinks that this monstrous being

can be none other than Imix in his very person, the great "dragon of the waters," rising from this same "great green" (p. 5).

I would almost call this speculation.

In this connection, and throughout the whole book Chac (Schellhas' God B) is called Itzamná. This identification is surely erroneous, because

Itzamná is described as old god in the Yucatecan sources (thus corresponding to Schellhas' D). On the other hand, there can be no doubt that God B is the deity of rain, and Chac or the Chacs are masters of that natural phenomenon today. These problems were carefully worked out by Seler long ago.⁸

The hieroglyph figure 155, mentioned on page 9, must be interpreted



155



153



157

as a somewhat carelessly drawn head-glyph of God H, variants of which are found on pages 20 and 21 of the Glyph Dictionary. Several of these heads show a ragged or dotted line around the mouth. This dotted line is distinctly represented in figure 155 and is also notable in the face of the deity below the glyph on page 28 of the Codex Tro-Cortesianus. The deity, then, is a compound personage of Gods E and H. Gates' explanation of the hieroglyph as Yax-Kan is arbitrary.

The character figure 156 is the common hieroglyph for God B. Gates assumes that this

glyph means something like our "the Lord Almighty," Odin the "All-wise, the All-father" (p. 12).

This is, of course, no esoteric interpretation!

Gates, like many other authors, names a certain infix used with head-glyphs, Akbal (p. 13ff.). It is, however, distinguished from this hieroglyph by the absence of the wavy line.⁹ The dog, for instance, is clearly a fire-animal in the pictures of the codices, and in a certain variant of the monuments (fig. 157) it means directly "day." Therefore the so-called Akbal infix cannot make it a "creature of the night" (p. 33).

On page 22 Mr. Gates says:

Probably the most important passage in the whole Dresden is the paired long columns on pp. 61, 69. Here we find this "green-serpent" at both 72 a 17 and 72 f 17, with the visible under jawbone, established in the inscriptions as meaning *lahun*, or 10. It is altogether likely that a reading of a few signs or affixes in these columns, would unlock all the cyclic astronomy in the Dresden.

⁸ Eduard Seler, *Maya-Handschriften und Maya-Gotter*, ZE 18: 416-420, Berlin, 1886. Reimpression in *Gesammelte Abhandlungen* 1: 357-366, Berlin, 1902.

⁹ See my paper, *El origen del jeroglífico Maya Akbal*, *Revista Mexicana de estudios históricos* 2: 3-7.

Utilizing the monumental hieroglyphs we can identify the two characters mentioned, of which one is reproduced in figure 158, as head variants of numeral Nineteen. Three specimens from the monuments (figs. 159-161), standing for number 19 (figs. 159 and 160) and 9 (fig. 161) have the sign Yax on the forehead, while it occupies more space in figure 158. The scal-



loped and dotted part near the mouth, a characteristic of God H, is well-preserved in the sculptured variants (figs. 159-161), but not visible in figure 158. Those on the other hand, do not possess the Chicchan spot in the temporal region, another peculiar trait of God H, while it is distinctly drawn in figure 158. The head numeral for Nine also occurs in the Dresden Codex (fig. 162), and in this case all three symbols (Yax, the dotted mouth part and the Chicchan spot at the temple) are present. We had, by the way, this same deity, God H, already in figure 155 and it resembles the monumental variants in the trait of not possessing the Chicchan spot.

Neither the etymology of the word *Lamat* nor the written forms of this hieroglyph warrant translating it by *Rabbit* (p. 30). There are a number of Maya day-signs that represent the same thing in Aztec, but others do not, and to these *Lamat* pertains.

Of *Muluc*, Gates says that in the "general calendar" it is the day *Rain* (p. 31). In the Aztec list, word and sign, however, signify *Water*, while *Rain* is the meaning of the nineteenth day-sign.

Similarly doubtful is the rendering of *Eb* by "Broom" (p. 38). The Aztec *Malinalli* refers to a certain grass, used for ropes, etc. Old Maya and Nahuatl variants of this day-sign have clearly a lower jawbone with teeth. So the word *Eb* might very well mean "teeth."

The two variants of 31 f. (p. 32) do not belong to the *Oc-Xul* series, i.e. the *Dog* heads, but are arbitrarily drawn forms of some kind of shell-fish. They must be considered as variants of Gates' glyph 342, as indicated by their first form (Gates: 342.1) in a series of four.

The first example for *Chuen* (p. 35, nr. 11 a 1 n) has the *Kin* sign for infix, while by the context and the reference (D. 5. c. 3) it must be *Chuen*. Probably a confusion with a similar hieroglyph in the preceding clause of the Dresden Codex has taken place, which has *Kin* as infix. The numeral 6, however, corresponds to the *Chuen* specimen.

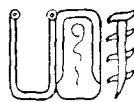
Of the 24 examples given for *Ix* in compound hieroglyphs (p. 40) only two (50. 4. 1 and 14. 11) really belong here; the rest represent a wholly

different sign developed from Kan.¹⁰ The conventionalized type of the time of the preserved codices in its variations alone is not sufficient for a genetic classification, one has to go back to the older forms of the Old Empire to learn the original shape.

The hieroglyph Cib is not "wholly sterile as an element" (p. 43), but occurs in Codex Dresdensis 35 (fig. 163). This is evidently the glyph com-



163



164

pound Gates reproduces as 17.20.1 under Caban (p. 44) in a not over-exact stylization (fig. 164), especially the postfix takes a fanciful shape. Cib and Caban are very similar, at least in the codices (on the monuments they differ considerably in form), but by some peculiar traits they can be recognized and distinguished. Cib has its inner frame-line on three sides and decorated with some symbolic strokes, this latter detail never occurring in Caban. The scroll element in Cib is drawn as a fine line, while it commences in Caban with a black spot.

As to Chen (p. 63), an essential feature is not rendered in the Gates standardized glyph forms: that is, the sign for Black, incorporated as black spot in the three specimens of the Dresden Codex. As Yax is the green month, Zac the white, Ceh or Chac the red, so is Chen the black uinal.

Gates thinks that the superfix to Chen may mean a Well (p. 67). This detail is unrecognizable in the variants of the Dresden Codex (see our fig. 35), but unmistakably represents a knot or tie of a fibrous matter (threads or hair) in the monumental forms (fig. 34). It is not limited to the Chen glyph, but occurs also with the other three month-signs that follow Chen, in fig. 32, for instance, it goes with Zac.

That Zip may add the wing-affix (p. 65) is a gratuitous assumption, because the last glyph in the Zip row (p. 62) is surely not this uinal's sign.

Sign 47, given for uinal (p. 72), is incomplete, as the Wing is missing. The correct form is reproduced by Gates on page 38. The significance as uinal rests upon very insecure foundations. Why present such a doubtful specimen when we have cases like figure 165, which not only by the context, but also by their identity with Old Empire forms clearly refer to the 20-day period? Under the heading Chuen (p. 37), Gates himself admits the soundness of these comparisons.



165

¹⁰ H. Beyer, *The Maya Day-Signs Ben and Kan*, AA 33. 206-208. 1931.

Among the Tun variants (p. 73) are several that really signify something different, namely the sky. These two compound hieroglyphs are in some of their variants very similar, but paying attention to "this or that stroke" they can be distinguished. The difference lies in the lower half, where the Tun glyph has variations of the perforated greenstone disc (tun), while the sky-sign has variations of a teeth combination. Two very clear cases are 50.10.1 and 50.13 (figs. 166 and 167), which represent the Day Sky and not Tun. The lower half has the normal form of that compound



166



167



168

glyph. In other occurrences where this part deviates from the normal form, the identification is more difficult. A comparison must be made with other variants of the same hieroglyph, and recourse must be taken to other methodological help. For instance, Gates' glyph 50.15 n (p. 73) is equal to 143 (p. 127), 307.4 n (p. 140) and 307.10 n (same page). They are the hieroglyphs of the Muan demon, as the pictorial representations that accompany several of them clearly prove.

The period of 7,200 days was discovered by Förstemann in the Dresden Codex, and Seler connected it in 1891 with the term Katun, known from the Maya sources. Goodman applied this knowledge to the inscriptions, but Seler became vexed that he had not quoted him.¹¹ That is, in a few words, the real situation, somewhat differently stated by Gates (p. 74 and 81-83).

Only for the first example for "Zero-time" (p. 86), reproduced in figure 168, can this value be proven; the second and fourth have variants of a prefix to be found in Gates' glyphs 647-649 (p. 169).

The face numeral for 4 has the peculiar teeth represented, while that for 6 has not. As both are the faces of the Sun-god (Schellhas' God G) there is inaccuracy in the Gates' drawings. By a remark on the following page, however, we comprehend that Gates had not recognized that the head for 4 and 6 represents the Sun god, because he interprets the questionable teeth as those of B, which, although similar, are not identical with those of G. God G has in the monumental representations the incisors filed to T form.



169

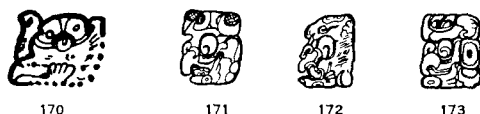
The Ahau glyph in the last row of the Numerals is very doubtful as to a possible numerical value. On the other hand, there

¹¹ Eduard Seler, *Gesammelte Abhandlungen* 1: 777-778.

exists an Ahau in the Dresden Codex (fig. 169) which by reckoning can be proved to have the value 3. Gates reproduces this sign among a number of undefined conventional forms as glyph 399.

Only the third and fourth glyphs of the last row on page 86 are safely established numerals, the other three are non-arithmetical hieroglyphs.

The "Moan" and the "bird with Akbal infix" (p. 87) probably have not the jaw-bone, but the hand as symbol. By comparison with other variants of the character it is fairly safe to suppose that we are dealing with one and the same hieroglyph, consisting of the head of the horned owl, having the double Tun above and a hand below as inserted signs. The hand where the thumb (to the left) is opposed to the four fingers (to the right) is still preserved in its outlines, in figure 170. It closely resembles some variants of

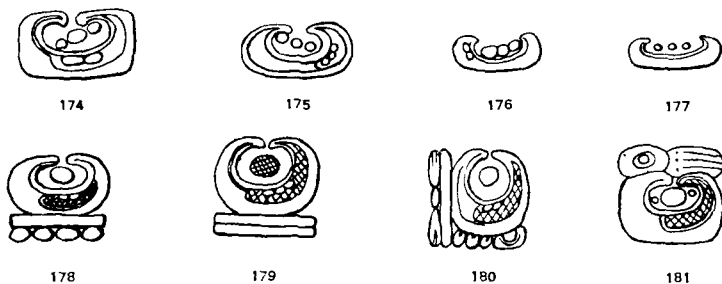


the Baktun hieroglyph of Old Empire times (figs. 171–173). In the other cases in the Dresden Codex the number of digits in the hand symbol is reduced, but the outline always differs from that of the fleshless jaw.

Glyph 80 and not 79 is meant in the sixth line from the bottom on page 87.

Among the hieroglyphs for twenty (p. 89) is one (59.5.3) that has a vague resemblance to these characters, but is really a reduced form of Gates' glyph 142.

Mr. Gates objects to the idea that the sign for 20 might be a symbol of



the moon (p. 89). In this case the monumental forms (figs. 174–181) show so clearly the contours of the crescent that it cannot be ignored.

Several specimens given for Black (p. 94) do not belong there, but represent a variant of the greenstone without the black detail. This is especially clear in fig. 182, which occurs in two places in the Dresden Codex. As the

day-sign Muluc appears both as a simple perforated disc and in the form of the prefix of fig. 182 the equality in meaning of both variants is guaranteed.



182



183



184



185

The text reference for glyph 70.20 (p. 97) belongs to 70.18.

Not "everybody has called the North Star god the 'monkey-faced one' " (p. 104). Seler has always strongly objected to this idea and maintained the hypothesis that God C's face is formed by the body of a serpent.¹²

Gates (p. 106) boldly suggests a translation of the four hieroglyphs that accompany four different representations of God B in the Dresden Codex. The first picture according to him would mean

Do honor and sacrifice (a turkey) in the North, to the White Lord, Wise Itzamná, (at his task).

While Mr. Gates is uncertain only as to the initial glyph, I, and others, will have many more doubts.

Glyph 76.9 (fig. 183) is a rather fanciful rendering of fig. 184, where neither the prefix Red nor the fleshless lower jaw are visible.

Gates throws together not only Gods B and G, but confuses also God K with them (p. 109). This god's head is represented on pages 2-11 of the Peresianus.

As glyph 78 we have a series of heads of Chac, but mixed with one or two other deities. Glyphs 78.2 and 78.2.1 are those the text for 80 refers to as "one of the double set of twenty glyphs across the Venus pages." They can be seen in their context on the color plate that forms the frontispiece of the Glyph Dictionary. We would think they were only transposed, were not the "hatchet eye" mentioned for glyph 80.

There is a very obscure passage on page 113. It refers to 81.13.1, which, however, does not appear among the head glyphs for 81 and cannot be intended for 81.13. I suspect that it must be applied to glyph 75.35 on page 101 (fig. 185). This hieroglyph can correspond to the commentary:

Here we see the eye with the oval above; then the identical nose and mouth of C, the "god of the north," from which runs up a curving line which (*if it were pictographic*) might equally well represent clouds, or waves. And the whole is surrounded by rays.

¹² *Ibid.*, 3: 649-651, 4 97-98 and 461-462.

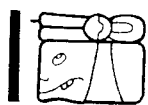
Seen thus, this should by all ways be a stellar deity; but how reconcile the clear union of the elements we have been told mean, one the moon, the other the "monkey-god" of the North Star?

The black heads united under nr. 82 belong to three different mythologic personages. Nrs. 82, 82 a, 82 c, 82.1, 82 d.1, and 82 a.1 are the hieroglyphs of Schellhas' God L; nrs. 82 e, 82 e 1, 82 a 2, 82.b.2, and 82 b.3 those of a Monkey God, while nr. 82 c n is a variant of God F's hieroglyph. Gates notes differences (p. 113), but does not classify the glyphs in question correctly.

To nr. 87 (p. 114) probably must be joined the specimens of glyph 355, a corrupted variation of 87, put horizontally.

Glyph 92 differs from 91 not only in having the flaring top (p. 115), but also in having teeth in the mouth and curved lines to the right, while the ear-disc is missing.

A serious mistake occurs with the heads of glyph 115 (p. 118). The first one is given by Gates to be like fig. 186, while in reality it is like fig. 187



186



187



188



189

—that is, the hieroglyph of God N. He evidently took the uppermost row of hieroglyphs of this series as consisting of seven identical characters. There is, however, an irregularity in the arrangement, as the first clause contains six signs and a pictorial representation, while the rest of the clauses have only four glyphs each and no pictures below. Every clause refers to a certain deity: clause *a* to God N, *b* to God H, *c* to K, *d* to A, *e* to E and *f* to the vulture demon. Here, where the tzolkin series with its subdivisions would have been of some use, Gates does not understand its purport. In his references seven cases are given, while there are only six clauses.

In another connection Gates has very well recognized the glyph in question and tabulated it under 19.7 n as D.46 a 2 (p. 50).

The head 123 cannot be designated as that of a Priestess or a Serpent Priestess (p. 121). Only in one exceptional case (Cod. Dresd. 15 b) is it given with a woman; in all others it is associated with a male deity. This god has as his characteristic an adorned greenstone in the temporal region of his head and is evidently a parallel figure to the Mexican god Chalchiuhtlatonac. The occasional employment of the god's head-glyph with a goddess

only shows that this goddess resembles the god in some way. Exactly the same thing occurs with the old god D and his female counterpart who has his glyph: Cod. Dresd. 9 c. Above we have had already a case where a male personage was taken for a female. These repeated mistakes allow the conclusion that Mr. Gates has difficulties in distinguishing the sexes so far as Mayan deities are concerned.

The heads 126 have, with one exception (the first head, nr. 126), the same dotted line around the mouth as the following glyph nr. 127. Both represent a dog. In Gates' figure 126.1, to be found twice on page 46 of the Dresden Codex, the dotted line is missing, but in the pictorial manuscript and its facsimile reproduction this detail is quite distinct in both heads (see figs. 188 and 189).

Somewhat enigmatical is an allusion to a glyph 142.9.1 on page 127, which cannot be found among the examples. Most probably it refers to figure 190.



190



191

Gates thinks that his glyph 142, a complex character, is united to the Oc form. It is, however, only one detail of 142, the two teeth, that is added to Oc. This simple glyphic element need not necessarily be taken from 142, as it appears in quite a number of other compound hieroglyphs.¹³ In figure 190 it was surely only employed as a filler, as there was left much white space in the right part of the main sign.

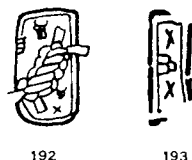
Glyph 143 is the principal hieroglyph of the Muan demon, and a comparison with the other versions of this compound character shows us that we have to explain its main sign as the Sky glyph, of which one-half is substituted by glyph 142. Knowing that the compound Sky glyph is formed of two independent hieroglyphs, the substitution is more easily understood.

For 144 (p. 127) Gates should not have overlooked figure 191, because it is a glyph whose name and meaning we know, being a variant of one of the day-signs (Muluc).

I would have put 145.5, 145.5 a and 145.6 under the preceding number, as these hieroglyphs have the same greenstone element. Glyphs 145.7 a b c (the reference has erroneously 127.7 a b c) have a protruding mouth, but otherwise nothing similar to glyph 145. This peculiar mouth form is accidental and is found also with other hieroglyphs. In this case it is evidently an expedient to balance the upper detail before the front of the head. Therefore these three heads should not be tabulated here.

¹³ H. Beyer, *The Infix in Maya Hieroglyphs (Infixes Touching the Frame)*, ICA 23: 193.

What Gates (p. 129) considers to be Ik signs (fig. 192) is the same Cauac detail as on the boards on page 80/81 of the Tro-Cortesian Codex (fig. 193), only in another position and not adhering to the frame. The knobs or clustering teeth in Cauac and Ik are, of course, fundamentally identical, but by the context or surroundings we can decide whether the detail does refer to Cauac or to Ik in a given case. Thus in figure 192 we are dealing with Cauac elements.



Not all 145.7 forms are doubtful (p. 129), but only a b c, to which I referred above.

A sentence on page 129 is referring to the looped line of gl. 81.13.1. Under nr. 81 only a glyph 81.13 is found and this has no looped line. The remark evidently alludes again to glyph 75.35 (fig. 185), as it did on page 113, above mentioned.

One of the most negligent chapters of the book is that on Animal Figures (pp. 130–134), and the reasons for this defect given by Gates seem to me very poor. He says:

No attempt has been made to define these characters. Their study lies in natural zoology and mythology, not in linguistics (p. 130).

If the Mayan hieroglyphs are ideograms as he declares emphatically in other places (p. VI, VIII, IX ff.), it is important to know with which peculiar animal we are dealing in a certain case. The task of determining the animal glyphs and of classifying them properly is not only possible today, but is done already to a great extent in the special treatises of Stempell¹⁴, Tozzer and Allen¹⁵, and Seler.¹⁶ There is really no excuse for some of the careless classifications in the Gates summary.

Most of the hieroglyphs published as two signs (nrs. 201 and 202) are heads of jaguar considered a red animal by the Mayas, while 201 d is the head of the spotted dog and 201 b.2 that of the white (or uniformly colored) dog. Figure 201 c refers to a deer (or a deer god).

Glyph 203 most probably is the head of the armadillo and 208 the same animal in the trap.

The white dog with black spots which we had in nr. 201 d is again represented in glyph 204. Also 207 appears over a clear picture of a dog.

¹⁴ W. Stempell, *Die Tierbilder der Mayahandschriften*, ZE 40: 704–743, Berlin, 1908.

¹⁵ Alfred M. Tozzer and Glover M. Allen, *Animal Figures in the Maya Codices*, PM-P 4, no. 3, Boston, 1910.

¹⁶ Eduard Seler, *Die Tierbilder in den mexikanischen und den Maya-Handschriften*, *Gesammelte Abhandlungen* 4: 453–758, Berlin, 1923.

The animal glyph 206 appears in the context as food offering. This and its cloven hoofs allow us to classify it as representation of a deer. The cloven hoofs are also characteristic of the peccary, but this animal does not appear among the ceremonial foods. Moreover, it has not the fluffy tail. Nr. 201 c and most probably also glyph 210 indicate the deer, too.

The heads glyph 213 are monkey heads and are closely related to 11a.1n, 45 a 1, 45 b. 1 n, 47 and 91.1.

The bird's head given as an example for nr. 223 serves as a food-offering, and is therefore a turkey. Thus it should be tabulated with the other turkey-heads under 292. In the references two other occurrences are indicated, which are wrong. The first (Madrid 10 a) is a vulture-head, the second (Madrid 28 c) is that of a bird painted black, which might also be a vulture and surely was not drawn to represent a turkey. The three glyphs have only a fortuitous similarity.

Glyph 227 is only a variant of the Muan bird, which is found as nr. 40 among the month-signs and also in 125.4. It is in another variant to be encountered under the following nr. 228 (40 h n). The first example for 228 (345.101) is really a serpent's head. An exact reproduction of it is seen in



194



195

figure 194, where the typical Chicchan spot is noticeable. The only similarity with the Muan head is due to the plume that is added as a symbol to the fantastic head. This

feather, however, is that of a macaw, while the Muan bird is the horned owl.

The heads of a mythical serpent subsumed under nr. 241 are, in general, akin. However, a clear exception is nr. 241.3.1 (fig. 195), which is the white dog's head with "Akbal" (more correct: the Double Tun) and thus should go with nr. 31 (pp. 31-32) where similar crudely-executed variants are gathered.

Glyph 243, notwithstanding its extravagant shape in some cases, is closely related to 126 and 127, as a comparison of the details will show. It is the small prefix that causes the distortion of the dog's head.

The head glyph nr. 245 is a variant of 241.2, which relation does not appear in the Gates classification. Both forms are heads with a double net.

What 125.4 has to do with glyph 250 I cannot imagine. It is the Muan bird, whose right "horn" is eliminated.

Glyph 261.1 (fig. 196) most probably is a bat's (vampire) head, with the conventional net we had in glyph 241.2 and 245. This fairly-recognizable head is evidently intended also in the clumsy drawing of glyph 264, (fig.

197). Now glyphs 262 (figs. 198 and 199) are homologa to glyph 261.1 (fig. 196), making it sure that they all are only variants of one and the same head-glyph of a deity, which would be the Bat Demon of certain Maya



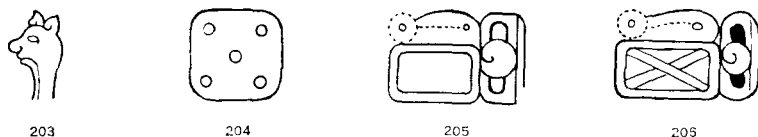
tribes. Most probably 261.2 (fig. 200) also is only a variant of 261.1 (fig. 196), as it has the same symbol in the eye. We can explain these glyphs, which are under nr. 261 and nr. 262 in Gates' system, as variants of glyph 29, the month Zotz: that is, "Bat." Glyphs 261 proper and 261 a, however, have nothing to do with this animal. Nr. 261.3 (fig. 201), on the other hand,



is evidently directly the glyph of Zotz and somewhat differently standardized in the second Zotz glyph on page 62 (fig. 202). It is obvious that Gates did not recognize the significance of these hieroglyphs, otherwise he would have treated them as variants of the uinal Zotz, or, at least would have made an indication in that sense. In the references under 261-275, the provenience of 261.3 is not given, thus making it probable that he could not locate it again.

Glyph 270 has no right to independent existence, it is only a carelessly drawn variant of nr. 293.1, the hand holding a fish.

Nr. 292 a (fig. 203) should not go with the turkey heads, as it has clearly



the ears of a mammal. It indicates thus, evidently, an offering of deer-meat.

In Gates' arrangement the Sky glyphs are scattered under different headings (143, 307, 328.1 n, 329, 330, 480 and 481). For the Sky glyph the lower half is constant, while the upper changes.

The same unsystematic treatment has been given to the hieroglyphs whose essential part is the bundle of fire-wood (306, 320, 332). It would have been much better to assemble them all under 320, but Gates seems not to have recognized their fundamental unity.

The general meaning of glyph 311 (fig. 204) is very easily found when one utilizes the monumental material; it occurs under identical circumstances with deities as ear discs; in the simple form with a central circlet and in the fuller form with five circlets. The hieroglyph is thus shown to be a variant of the perforated greenstone.

The provenience of glyph 312.5.1 (fig. 205) is missing (p. 142). In such cases, generally, there is something wrong with the hieroglyph. Gates' drawing in the Glyph Dictionary differs from the one he published in his edition of the Perez Codex (fig. 206), especially in the fact that the main glyph is void, while it is filled with Crossed Bands in figure 206. Then the glyph should have been tabulated under 302. Looking through the occurrences adduced for this hieroglyph, we find it indeed as nr. 302.6.1. The lines in the interior of the main sign are partly destroyed in the original document, but are probably correctly restored in figure 206. In any case, Gates' assertion that

the forms shown are not cases of partly erased glyphs, but are clearly left with unfilled centers (p. 143)

is not justified in the case of 312.5.1.

Concerning glyph 313 Gates says that it "has been assigned the meaning of Water." It is, however, only a receptacle for water and means by itself only cave, excavation, hole in the ground. In most of the cases it contains water and is then a water-hole. In figure 207 it is just a dry pit or hole, a cavity in the soil containing a pointed flint used as a pitfall in which a deer is caught.



207

Gates' standardized drawing (fig. 208) of the hieroglyph C Dr. 21 c (his 333.1) is somewhat arbitrary, as he put the main sign upside-down and does not reproduce the dots between the circlets (fig. 209). Glyph 333.2.1 had already received classification as 14.9.1 (p. 40); its correct place is, however, here with 333. The last specimen of the row (fig. 210) represents a certain drum represented in the pictorial parts of the codices (figs. 211-213). It should be united to figure 214, that is Gates' nr. 382.



208



209

I cannot see what glyphs 1.23.1 and 431.6.1 (p. 153) have to do with nr. 337. Probably they are transposed from the preceding page, where they would have a meaning as variants of 336.

Glyph 341 (our fig. 215), entering in a combination with Ben, has not



211



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210



213



214

been named Ik by all authors, as Gates supposes (p. 155). Seler calls it Kak, and I have determined it as the central part of Lamat. Teeple speaks of it as day Lamat.¹⁷

If Gates had recognized the other variant (fig. 216) of his nr. 343.2 (fig.



215



216



217

217), he would have been able to see that his 343 is only a variation of other glyphs brought together under 359.

By the detailed description one is enabled to correct 344.12.1 (p. 157) into 349.2 as the glyph here meant.

In a passage on page 159 we hear something of the "destruction sign 143." Nr. 143 would be the hieroglyph of the Muan demon, but Gates' interpretation refers evidently to glyph 142.

I would distinguish and separate the forms of 356 with three details (356.1, 356.2 and 356.4) from those that clearly possess the tun disc with two teeth (356.4.1, 33.1, 356.5.1, 356.6.1). Glyph 356.3.1 is indeed, as sus-

¹⁷ John E. Teeple, *Maya Astronomy*. Carnegie Institution of Washington, Publication No. 403. Contributions to American Archaeology 2: 71.

pected by Gates (p. 161), Black, and has been correctly classified there (68.3.1). Here with 356 it is in the wrong place.

Gates' standardized drawing 357.5 (p. 161) looks like the general form 357; that is, the simple tun disc with dotted outline. The real glyph however, is clearly the numeral one with dotted circle around it (fig. 218).

Among the examples for 359 (p. 162), glyph 343 2 (p. 156), our figure 217, should have been mentioned as well as figure 216. Their upper part is a variant of the two dotted objects to be found in the same position in

glyph 359, and the lower part is also the same, although reduced to a dotted line in figure 216. Glyph 319.3.1. (p. 145) is related to 359.4.

Glyphs 362, 363, 374 and 386 should be placed together under one number as they all represent the same thing, namely a snail-shell.

The middle glyph of 364 (fig. 219) is a variant of the Minor Element 641 and has only a casual resemblance to the two preceding hieroglyphs.

The one object given for 381 (fig. 220) is a hatchet and thus should be tabulated with 435

Glyph 391 is a crudely drawn hand (fig. 221) and, therefore, should be added to nr. 7, Manik.

The main sign of the compound hieroglyph 401 (fig. 222) is a variant of 373 (fig. 223) and should be given as such or follow it immediately to indicate the close relationship.



217



219



220



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222



223

The principal sign in the combination 403 is probably only a variant of 357.3. Gates himself must have had that opinion at one time, because he puts them together as variants of the Minor Element 617 (p. 169).

Glyph 406 (fig. 224) is only a variant of 341.4.1 (fig. 225) as the context shows. The connecting lines in the Lamat detail either have faded or have been omitted by the scribe.

Under 421 is a compound glyph which has the classification 434.4. This is obviously wrong, as 434 is the jar. It should be with the nr. 141 specimens of which it is a rudely drawn variant.



224

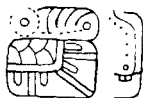


225

There is a heading 422, but all the specimens presented there have other numeral classifications. Now, the first hieroglyph contains the object which is meant as 422 for its main sign. Therefore it should have been classified as 422.1, or something similar. In effect, on page 93 we find the same hieroglyph tabulated as 422.1. As Minor Element the root hieroglyph has nr. 716. The system lacks consistency. Sometimes main signs and affixes have one and the same Index Number, sometimes they have two different headings.

The numeral ten before 427.3.1 n is probably a mistake. The prefix is partly destroyed, but the traces are better restored in form of 324.

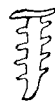
Glyph 431.2 has been classified already as 319.4.1, which is better justified. On the other hand 319.5.1 might well correspond to 431.6.1 and should at least tentatively be put there. Glyph 431 represents the Mat and Matting.



226



227



228

The compound hieroglyph figure 226 is found under the heading 431, but with the classificatory remark 433.3.1. Under 433, however, a sign is presented which neither directly nor indirectly has anything whatever to do with it, as it is the human footprint. Possibly Mr. Gates intended at one time to consider the main sign of figure 226 and its variants as a separate form. On the other hand, the sign is classified as 707 of the Minor Elements.

The lower sign of the compound glyph 434.4.1 is not a jar, but the hieroglyph of God M, and thus ought to be on page 129 with glyph 148. Gates' standardized drawing is incorrect through not having indicated the lower curved line as somewhat broader than the rest. The unstylized glyph looks like figure 227.

Minor Element 637 (fig. 228) is a fantastic sign resembling a strange weapon similar to the Aztec macuahuitl. It would have been impossible for me to locate this curious object if figure 164 had not given me a hint to what was meant. By comparison with the original hieroglyph (reproduced in fig. 163), the enigmatical weapon proved to be a faulty drawing of the slightly damaged affix 322, one of the most common glyphic elements in the Maya writing system.

Element 713 is only a reduced variant of 705.

Four pages of the Maya codices are reproduced in color and inserted in the Glyph Dictionary. Even the facsimile edition of the Dresden Codex is

not absolutely reliable as to finer shadings of color, but Gates' reproductions seem to me to go too far in that respect. In the frontispiece color-plate, reproducing page 49 of the Dresden manuscript, the upper picture has a disagreeable blue background, while the original shows there a light reddish brown, evidently a diluted and impure red coloring-matter. The green background of the lower picture is really dark blue (a mixture of blue and black) in the original. Equally arbitrary are the three green quadrangles on page 77 of the Glyph Dictionary (corresponding to page 6 of the Dresden Codex), as they are of blue color in the original as well as in the facsimile edition.

The hieroglyphs and deities on these color plates are standardized according to Mr. Gates' views. That these stylizations of conventional figures are not always happy might be expected, but it would take too much space to prove this in detail. Thus I select only one case. On page 6 b of the Dresden Codex (the Glyph Dictionary's page 77), the Old God sets a stick into a hand hieroglyph resting on a head. This head can be identified in the original as the usual conventional hieroglyph of God B (fig. 229). However, nobody would venture to interpret the head Gates has drawn that way (fig. 230). By its dotted line it must be an animal's head. It is evident that Gates used for his plate the facsimile edition of 1880 in which this head is partly blurred. Unfortunately the heliotype process employed in printing that edition caused many smaller imperfections, so that a correct rendering of the hieroglyphs must be based on the original itself.



229



230

Although I have checked a good number of Gates' examples, I have by no means exhausted the errors in statements and in references. But even after this partial discussion of the contents of the book I must declare it an unsuccessful attempt to deal scientifically with the Maya hieroglyphs. For the advanced student the treatise is too elementary and for the beginner it is too complicated; for both it is as well unreliable as impractical.

As Mr. Gates has issued only a very small edition of his book, the feasibility of a second revised edition can be contemplated. As a scientific production the work is in my opinion a miscarried plan; it cannot lead to a deeper insight into the origins of glyph formation and significance. On the other hand, as an introduction into the subject-matter and a résumé of attained knowledge it could be of some use. But then, on the whole, only the fundamental arrangement of the glyphs can be retained, while the text would have to be almost completely rewritten. All the manifold errors and shortcomings mentioned in this paper have to be corrected, the objections of

other specialists taken into account, the whole material confronted with the originals, the new literature considered and exploited, a simple reference system employed, and so forth. The incorrect fine outlines of the standardized glyphs cannot be remedied as it would involve the expense of rectifying the drawings and making new cuts. This little defect, then, must be retained. By reforming the book thoroughly and printing it in an economic edition, it might be of utility to those students and amateurs who are at the beginning of their studies. Gates' standard forms might enable them to find the essential parts in the bewildering variations of the real specimens in the written Maya books, and thus make them familiar with their material.

Although the number of more or less important mistakes and doubtful concepts is very great, I do not want to leave the impression that I condemn each and every word in the work. There are some rather ingenious remarks and a number of valuable data, but they must be winnowed out of much chaff.

Gates has recognized, quite rightly, that in Maya script prefixes and superfixes are equivalent, as are subfixes and post-fixes (p. ix).

Page 4 he declares that "we have not yet found a glyph for the *tzolkin*." Unfortunately he mars his critical observation with the unfounded guess, "we should expect *Imix* as its main element."

That Air, Life and Spirit go together (pp. 5 and 10) can be accepted. It must, however, be said that in this case, as in many others, what is good in Gates' assertions is not always new.

The exact meaning of *Akbal* as "darkness" (p. 11) is one of the few cases where the philologic treatment is of value. But when Gates translates the name of the day-sign (p. 10), he commits the inconsistency of rendering it by the usual "night."

Gates comments on *Ben* (p. 38) in a scholarly way, showing a scientific understanding of difficult problems.

I also accept his views on certain pictures of the Dresden Codex as treating of "forces" (p. 138). By the way, we had in alchemy similar modes of thinking and expression by means of words and pictorial representations.

The treatment of *Cumku* (pp. 146 and 152) reveals scrutiny and appreciation of details

We must be grateful for the exact explanation of de Rosny's error of calling a certain hieroglyph *Ik* (p. 155-156).

Of greatest value are new variants of day- and month-names extracted from unpublished manuscripts. Here Gates puts all coworkers under obligation.

All these valuable little contributions to the advance of our science, however, could be comprised in a small paper, without need of the costly and cumbersome apparatus of the Glyph Dictionary.

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INTRODUCTION

AROUND the shores of Cook inlet live the self-styled Tanaina, an Athapaskan-speaking people with a sea coast. Cook inlet is alive with food but is more treacherous to navigators than most of the north Pacific coast. It lies near the northern extremity of the crescent-shaped Alaska shore line, stretching from the Aleutian islands to Clarence sound.

To the east, the country rolls ruggedly into the range of Kenai mountains with its brown bears, its wild sheep and goats. Kachemak bay intrudes 40 miles, cutting off the southern end of the Kenai peninsula, and Capt. Cook's Turnagain arm provides the equivalent dissection for the northern end. Between these two bays is found the only country which is not entirely precipitous. It contains Skilak and Tustumena lakes, a district which was probably the culture center of the Tanaina area.

On the west side of the inlet, smoking peaks of the Aleutian range rise starkly from the sea, leaving only at intervals a strip of sand and rock for passing occupation by Indians or seals. Crossing over the Aleutian range, one comes upon two large lakes, Iliamna and Clark, parts of each of which are occupied by Tanaina.

From the northern end of the inlet, which reaches $61^{\circ} 31'$ of north latitude, stretch two drainage valleys, one of which slopes into Knik arm while the other is emptied by the Susitna river and its tributaries.

All of this territory occupied by the Tanaina is mountainous. Below the timber line are spruce forests and alder, interspersed with groves of birch, cottonwood or aspen. Even as the waters of the inlet are rich with sea foods of great variety, so are the mountain slopes alive with bears, sheep and goats. Porcupines sit curled in the branches of cottonwood trees, and the moose, which have displaced the caribou in the past century, trample in numbers through the underbrush. The Tanaina have one of the most justly famed hunting grounds in the world.

The occupation of the Cook inlet area by Europeans dates from the latter part of the eighteenth century when settlements were established by Russian traders and missionaries. The natives were only subjugated after much fighting, continued over a considerable period of years. In 1818 the total population was given as only 1471, and the following year the Russian America Company had four permanent villages under control. After a period of over a century, the most noticeable changes have been the increase in the European population, which is not large except in the case of the railroad town of Anchorage on Knik arm, and the decrease of

native population to about one-fourth, with a pitiable disintegration of the former sustaining culture. Today the principal villages of the Tanaina are only six in number, three on the east coast of the inlet—Seldovia, Kenai and Eklutna; Tyonek on the west coast; Susitna village on the Susitna river; and Iliamna village on Iliamna river. Besides these six villages there are a few others which are offshoots but more or less permanently settled.

The word Tanaina is in itself a variant of one of the many words used in designating the Indians of this area. It is their word for "native." The spelling adopted corresponds to phonetic spelling, and the tone for the three syllables should be high, high-falling, and low, with the stress on the penultimate. It is here defined to include all native Indians in the Cook inlet drainage north of Port Graham bay on the east coast and north of Kama-shak bay on the west, also the natives of the Iliamna river and its drainage, a few natives on the upper part of Iliamna lake and on Clark lake, all of which people speak closely related dialects of Athapaskan (Déné) and have a cultural and physical unity. The synonyms for Tanaina are Tehanin-Kutchin, Knaiakhotana, and Kenaitze, with their variants.

The past tense has been adopted throughout the paper for the sake of uniformity and should not be interpreted as signifying necessarily that the culture is not still active. By reconstruction, a descriptive cross-section of Tanaina culture at the latest period in which it was uninfluenced by direct European contact has been attempted.

The field work on which this analysis is based was undertaken during the summer season of 1931 as an ethnological expedition of the Peabody Museum of Yale University. One or more informants were used in each of the principal villages to gain both general and comparative data.

FOOD

The Tanaina area was cut into four sub-areas by the unusual range of the environmental factors governing the food supply. To clarify, we present them as follows:

- I. Lower inlet (Seldovia)—mild climate—salt water.
- II. Middle inlet (Kenai-Tyonek)—climate less mild than I—salt water mixed with fresh.
- III. Upper inlet (Eklutna)—climate cold—dirty fresh and salt water mixed.
- IV. Inland (Iliamna and Susitna)—climate cold—fresh water only.

The significance of these environmental factors is made most apparent when we consider the economic distribution of the fauna. Of the sea-mammals used for food, fur, or both (hair-seal, ground-seal, sea-otter, sea-lion, porpoise, beluga and whale) which were found in the Lower inlet, only two

(hair-seal and beluga) were found elsewhere, that is, in the Middle inlet and seasonally in the Upper inlet. Expeditions were made, it is true, by the other groups for the capture or trade of the missing animals, but this did not compensate economically for their immediate lack.

Of the twenty-odd land animals of importance, all may be said to have been distributed about equally over the Tanaina area with the exception of mountain sheep and mountain goats, which were concentrated in the Upper inlet district. These animals were also gained by expedition from the other districts with the exception of Iliamna and, in the case of mountain goats, from the Lower inlet.

The greatest variation lies in the variety of the supply of sea foods. Thirteen species (salmon, herring, halibut, catfish, candlefish, sculpins, bullheads, codfish, octopus, clams, mussels, crabs, tomcod) were present seasonally and eaten in the Lower inlet. Of these thirteen species, ten (salmon, herring, halibut, catfish, candlefish, sculpins, bullheads, clams, crabs, tomcod) were present in the Middle inlet, but five of these were rare (halibut, catfish, sculpins, clams, bullheads). In the Upper inlet four (salmon, herring, candlefish, tomcod) were present. In the Inland district, only three were present (salmon, candlefish, bullheads). Of these many species of fish only the bullheads, tomcod, clams and mussels were not limited to seasonal catching.

Game birds were fairly equably distributed in the Tanaina country, as are vegetable foods, but with a more generous season in the districts with milder climates. Especial mention should be made of the fact that the Lower inlet had two varieties of edible seaweed and that the Upper inlet had an abundance of much desired and traded-for edible roots.

The Lower inlet (Seldovia) obviously enjoyed a greatly superior variety and also quantity of food. This was due principally to the salt water fauna and to the mildness of the climate. The Middle inlet shows a marked decrease in variety of foods and the Upper inlet even greater. The Inland sub-area was more typically Athapaskan in that it depended more on the land and fresh water fauna. The salmon, however, were even there in abundance.

In the matter of hunting and preparing land animals, fowl and vegetable foods, there was a practical equality among the Tanaina but in the capturing and preparation of sea foods, the Lower inlet people, and, to a less degree, the Middle inlet and Iliamna people, who have had the greatest contact with the Eskimo material culture, had distinctly the advantage.

DRESS

The dress was fairly uniform, although certain characteristics show the Lower inlet and Iliamna, essentially one in this respect, to be more like the

Eskimo than are the Upper inlet and Susitna, also allied in the matter of clothing.

The typical winter costume was composed of a tailored caribou shirt and trousers extending to the ankles. Over this underclothing was worn a fur top dress and over-trousers according to the dictates of the weather. The over-trousers had footwear attached with soles of bear hide. When the weather was mild, the over-trousers were not used and fur boots reaching to below the knees were worn. Sometimes when in the village, house boots which reached a little above the ankle were substituted. True moccasins are known to be an historical intrusion and leggings were never used. Only at Iliamna were salmon skin boots known. Belts of skin were used to support the trousers and the knife. Mittens and fur caps completed the costume. In very cold weather a windbreak of skin, tanned without fur, was worn over the fur top dress and in wet weather or for sea travel gut clothing was used. Various parts of the costume were ornamented with fur, paint, porcupine quills, or shell beads. There was a notable contempt for the use of mink fur. The only notable sexual differentiation in the winter dress was the length and material of the fur top garment. Men's were of knee length or shorter, whereas women's came almost to the ankles. Sea-otter skins, often trimmed with ermine, are said to have been worn only by women.

The outer winter top dress is especially notable for its variations in different sub-areas of the Tanaina region. In the Lower inlet and Iliamna was found the Eskimo hooded parka, open only a few inches at the neck and with the bottom edges straight around. In the Middle inlet not only this garment was found but also the open fur coat with a hood. The wearing is said to have been a matter of individual preference. In the region of the Upper inlet, however, the fur parka was worn hoodless, but with a thick fur collar. The open fur coat with a hood was also used, in this instance said to extend to the ankles. A short Eskimo type parka of ground-squirrel skin, in use for hunting, was common to all the Tanaina. Fur blankets were also universally used and had a recognized intertribal trade value.

The typical summer dress for men consisted of a skin shirt, tanned without fur, which reached to a little above the knees. In the Upper inlet it was pointed before and behind. Trousers of similar material had footwear attached, although children and some old men wore the winter trousers extending to the ankles and then went barefoot. Women wore long shirts extending to the ankles and boots, only wearing trousers when traveling. Children also wore the long shirts, boys to the knees and girls to the ankles, and went barefooted generally. A woven spruce-root hat of North Pacific coast type was reported from the Lower and Middle inlet and the analogous

birch bark sunshade from the Upper inlet and Iliamna. Women throughout the country wore a tight-fitting skin skull cap with ornamented pendant flaps sometimes dropping considerably below the ears. The men's caps were of fur: if of marten, one skin forming the top and another the sides.

Bracelets, necklaces, earrings and nose ornaments, generally of shell, were worn, and especially in the region of the Upper inlet there was a high development of personal adornment. The faces were painted, tattooed, especially by women, and elaborate coiffures created by bundling up the hair on the back of the head and smearing it with grease, red ochre, and feathers. Sometimes the knot was bound with strings of beads. One case was described where a hatchet was stuck through the bundle for convenient readiness. In the Lower inlet informants insisted that personal decoration was much less developed and showed a contempt for the northerner, which may be an historic attitude. In the Middle inlet, it was said that the hair was not greased but the use of the labret was described. Only at Iliamna were snow goggles used.

SHELTER

Individual variations in types of shelter were apparent among the several groups of Tanaina. The form of the barabara in the Upper inlet varied from that in the Lower. Only at Seldovia (Lower inlet) was found the dance house, which was certainly borrowed from the Eskimo. In the Upper inlet, underground caches are said to have been used to the exclusion of the platform cache which was commonplace elsewhere. Very obvious in the same region was the emphasis on the use of birch bark as a covering material for various forms of shelter. It was rarely, if ever, used in the Lower inlet, where the supply of birch bark was insufficient.

The most typical winter house of the Tanaina was the barabara found in the Middle inlet. It was a shelter built of upright planks or smoothed logs supporting a bark roof and having one or more attached rooms for sweat baths or sleeping apartments. The floor was several feet below the surface of the ground and the houses were long enough to accommodate one-fourth to one-fifth of the village. Fires were built in the middle and smoke holes occurred at intervals along the ceiling. Platforms were built out from the side walls and on these the unmarried men slept. Beneath the platforms were sleeping compartments for the younger married people and others for unmarried girls, while the older people had little buildings extending from the sides for sleeping quarters. There was an entry-way to each house about 5 feet wide and 10 feet long and the outside of the whole construction was thatched with grass.

The summer dwellings of the Tanaina were many. The smoke-house was often used. In the Upper region, it was a structure perhaps fifty feet long sheathed in birch bark. In the Lower inlet it was built of logs with a spruce-bark roof and was much less generous in its proportions.

The conical shelter built with a frame of alders was used by all the Tanaina. In the Lower inlet it had a covering of grass thatching over alder leaves, or in winter, spruce boughs alone. Other Tanaina used a birch bark covering or, on occasions, moss.

Temporary shelters in the form of simple lean-tos were used in traveling and hunting. In the Lower inlet they were covered with spruce boughs or grass and sometimes when the weather was very rainy, with a double layer of skins. In other parts of the country a roofing of reinforced birch bark was in vogue. Another variety of lean-to, common to all, was a somewhat longer shelter used at hunting camps. Cottonwoods with rotten centers were split and hollowed out and then laid on alternate faces, forming a sort of corrugation which was practically waterproof. An Upper inlet informant insisted that this type of roofing was introduced by the Russians. The same informant was the only one who knew the tipi form. He said that a certain type of tipi was used when skins were plentiful and the country traveled through had little timber.¹

TRANSPORTATION AND TRAVEL

Here again the Lower inlet stands out in contrast to the other districts. It is the *kaiak* and *umiak* of the Lower inlet as opposed to the birch bark canoe and the river skin boat of the Upper inlet, the middle regions being, as might be expected, in a state of change. Certain things common to the whole area might be mentioned by way of introduction. Swimming was considered a necessary achievement that apparently all children were required to learn. On land, trails were marked out by hanging moss or grass on conspicuous trees or such natural objects as might be available along the way. There is no evidence that dogs were ever used as pack animals. Human pack sticks, however, were well developed, and also several forms of bundling objects according to material and weight. Rude log bridges were sometimes built across streams, or if necessary, simple rafts were constructed. These things were not restricted in area.

The *kaiak*, or *bidarka* as it was commonly called in Russian America, was made by the people of Lower inlet. The wood frame was constructed

¹ The type that he described was like that with the supporting hoop used by the Athapaskans of the Koyukuk river.

by the men but the covers of hair-seal were prepared and sewn on by the women. About ten sealskins were needed and the sewing was double and grease used for waterproofing. Everyone is said to have owned a *bidarka*. Women were taught to manage them. The single-bladed paddle was used to the exclusion of the double-bladed variety, despite the fact that they knew the Aleut had it.² The *kaiak* was probably used by all the Tanaina to a certain degree, but in many cases these boats were gained through trade.

Except in the Lower inlet, where they had apparently become a useless article, the birch-barks were the established means of light water transport. They belonged to conservative tradition. A few dugouts for carrying fish were made of cottonwood on the Lower and Middle inlet, but being treacherous to handle, they were seldom used. These dugouts were modest efforts, and not apparently of North Pacific Coast design. In a region of calm water and small lakes and rivers, the birch bark canoe held its own against the intruding *kaiak*, the skins for which were more difficult to obtain than long strips of bark. In the same way the *umiak*, close partner of the *kaiak*, could not contest the position of its near relative, the finely adapted moose-skin river boat. A special large *umiak* used in the Lower inlet did make its way to the Upper, where it has been described as being made of sea-lion skins and bearing two masts. With both small and large *umiaks*, skin sails were used. Their origin is disputed, and they may have been introduced by Europeans. When not sailing, the *umiaks* were propelled by men using paddles. There was a steersman, who for such time as he steered, was a sort of captain.

In the winter, simple sleds, heavily constructed from the harder sections of tree woods, were hauled by human power, either male or female. There was no re-surfacing of runners, and the simplest form of stern posts was erected if used at all. The construction of these sleds increased in importance and probably in quality according to the nearness of the village to the colder, Upper inlet.

Snowshoes, rounded and raised in front, of the Tanaina type, probably seldom have been excelled in workmanship by any other people. Both the Middle and Upper inlet areas were outstanding, both claiming superiority in combining a mooseskin netting with a birch frame. There was nothing

² The term Aleut is here used to refer to those natives who belong ethnologically with the group who occupied the islands extending westward from the end of the Alaska peninsula, not the Eskimo of Kodiak and the neighboring mainlands who are today called Aleuts by local Europeans.

notably distinctive about the snowshoes save the fineness of the craftsmanship.

It is hard to determine to what extent the Tanaina traveled before the first European contact. Undoubtedly a trade existed between the Lower and Upper inlet peoples for edible roots in return for dogfish and the products of the sea-mammals, since the occupation of the Lower inlet by the Tanaina. Tyonek men are said to have crossed on the ice in times of hunger and come down the east coast to a point where they could signal the Lower inlet people to bring them across Kachemak bay in boats so that they could have access to open-water hunting and fishing. The Lower inlet people traded furs to the Kaniagmiut of Kodiak island for baskets of whale meat, but it was the Chugachimiut of the Seward district with whom they say they enjoyed very active and friendly intercourse, sometimes visiting for whole seasons. In some cases intermarriage took place.

Tanaina of the Inland Iliamna district were in direct contact with the Eskimo of that region, to whom they traded moose and wolverine skins for seals and skin lines, but much intercourse beyond trade is dubious. They also claim to have made contacts with the Eskimo of the Lower Kuskokwim in the hunting ground between that river and Lake Clark.

In the Upper inlet, the Knik people had regular contact with the Athapaskans of Copper river. Fur, copper, fish, and beads were the staples in trade. Notably, they say that they did not meet the Chugachimiut of the Seward district to whom they were actually close but separated by high, glacier-filled mountains.

Tyonek and Susitna are said to have had a great deal of contact but the Kenais proper played the middleman for much of the inter-village trade because of their advantageous geographical position.

IMPLEMENTS

It becomes apparent that the Tanaina were indebted to the Eskimo to no slight degree. Particularly is this noticeable when one compares the Lower inlet and Iliamna with the Upper inlet and Susitna, the latter having no direct Eskimo contact.

Considering the hunting implements first, we find the three-barbed, detachable fish spear, the bear spear, the sling shot, arrows, and most varieties of traps and snares common to all the Tanaina. The next grouping, which includes three types of spears using floats and the lance, appears to have been absent only from Susitna. The most significant of all is the distribution of the bow and quiver. The sinew-backed straight bow was used in the Lower inlet and at Iliamna and informants could not remember the

bow with a guard. They shot their bow horizontally when afloat but when ashore, in a position approaching the vertical. Their arrows were carried in a wood case so that the feathered ends of the arrows projected over the right shoulder. At Susitna and Upper inlet villages, the long straight bow with a guard was used and the arrows were carried in a skin case which hung in front from the left shoulder. They knew the sinew-backed bow and described it by adding the word for sinew to the name of their own bow, which was shot from a position approaching the vertical. The spear thrower, another hunting implement, was in use only in the Lower and Middle inlet. The latter area had a mixture of traits,—both types of bows, for instance.

Among the fishing implements we find a commoner distribution. Dip-nets, basket-traps, fish hooks, the woman's knife, and the seine made by splicing alder poles, were everywhere. Nets of sinew and skin lines were reported in the Upper inlet and may well have been widely distributed in forgotten times. We should note, however, the toggle fish hook in the same area as contrasted to the large halibut hooks of the Lower inlet used for a big sea fishing.

Of household implements, only the stone lamp was notably restricted in distribution. It was not used except in the Lower inlet and to a less degree in the Middle. Intrusive copper should be noted in the Upper inlet where it created a special variety of knives, adzes, and awls. Multiple-piece wood food dishes with inlaying were much more common in the Lower inlet and at Iliamna than in the other parts of the Tanaina country. Lines made from kelp were also restricted to the Lower inlet. Horn and wood spoons, gut and skin sacks, woven spruce-root baskets, large wood food receptacles, grass mats, a special cooking-stick, and the fire-drill (without bow) are the remainder of principal traits which were common to all the Tanaina.

WAR

White-haired grandfathers avow that the Tanaina were warriors in the time gone by. They are more convincing than most Athapaskan old men. They never admit of having lost a battle before the Europeans came (a privilege of old age perhaps), and the younger generations are too far removed to be more than slightly interested. But their courage was remarkable, if only to judge by the hard contest they gave the Russians for more than a quarter of a century for possession of the soil.

Tanaina wars consisted merely of raiding and the repulsion of their enemies, who were principally Eskimo. Only at Tyonek did an informant admit that the Tanaina fought among themselves. It is too long ago for anyone to remember. The people of the Lower inlet and Iliamna fought the

Kaniagmiut and have done so within the memory of living men. It was through Kaniagmiut territory that the Tanaina drove their first wedge to the sea. They went into battle led by their war chiefs, agilely avoiding the spears and arrows of their opponents. They danced their attack, quietly and quickly, toward the singing Eskimo. The spear and bow and arrow were used but dropped to depend wholly on the club in close encounter. The fighting continued until there were only two or three men left on one side. These were allowed to return to their otherwise destitute women. There seem to be several reasons for this. One was that the tragedy for the victims would be impressed more by the personal recounting of eye witnesses, thus glorifying the victory by living memories. Another attitude might easily be described as sporting. As one informant put it, a few men were allowed to return "so can come and fight more—fight good." Fighting was, after all, an honorable pursuit, from which prestige was gained. It would not do if all of one's opponents were killed off. In the Lower inlet, trails were worn to the promontories by the watchmen who guarded the camps during the night.

In the Tanaina sub-areas the treatment of the prisoners and dead and the types of implements used in war varied. A form of armor was used by all, but in the Lower and Middle inlet it is reported as in the form of a grizzly bear parka covered with alternate layers of spruce gum and sand. In the Upper inlet and again in the Middle, we find armor made of slats of birch wood held flexibly in position by cords of babiche. The clubs of the Lower and Middle inlet were made of a very hard wood. In the Upper and again in the Middle inlet we find the clubs made of horn, soaked in oil to give them strength and weight. Bows and arrows of both types were used according to their distribution or their owner's preference. Spears were probably in general use, of the type as for bears but with a narrower blade. At Seldovia a special shield-club for knocking down arrows was reported. It was made of pieces of bone fastened with pitch and lashed with sinew. As to treatment of the slain enemy, in the Upper inlet the bodies were left where they fell whereas in the Lower Inlet they were cremated on a funeral pyre. At Iliamna the heads were cut off and hung up, the remainder of the body burned. Another trait found only at Iliamna was the use of body ashes by shamans for making of poison, which was applied to hunting spears and points.

AMUSEMENTS AND ARTS

The Tanaina, like other northern Athapaskans, were not conspicuously advanced in their development of arts but ranked high within that group in Alaska and Canada. Two stick games were played, one by means of two

small sticks, one marked, the other not. Guessing, accompanied by singing and dancing, took place until sixteen points were won by one side. This game was said to be of Eskimo origin in comparison with a second which had no singing or dancing associated, but was more complicated, being played by ten men on a side until forty-three points were won by either team. In this game each man had one stick. Another popular game was played with two pairs of wooden discs, which were tossed toward a double square. The counting was analogous to our game of horseshoes. Other games were played by shooting either arrows or darts or throwing spears at a mark, the scoring depending upon the placing of the shots. With this game, counters were used as with the others to obviate difficulty or dispute in scoring.

A game of blind man's buff was popular, generally played around a fire on the beach after the evening meal. One man was blinded with a caribou-skin hood which he wore until he caught someone else. If he fell in the fire, everyone laughed and some threw water on him. He wore sheepskin mittens to protect his hands.

Two acrobatic games were notable. One tested the performer's strength in raising himself from a hanging position to one in which his arms were straight down. The individual took hold of two lines hanging from the ridge-pole of the house, raising himself up on one arm at a time. The other was a matter of balancing. Two parallel lines were stretched about eight feet high between posts or trees. The object was for the performer to throw a spear at a mark while balancing. Very often he fell off, to the amusement of the onlookers.

Beside these games there were many others such as finger-pulling, top-spinning, and various sorts of athletic contests. Gambling often accompanied the games. Players or by-standers would wrap up their wagers with those of their opponents, and the winner took all.

Story-telling was an important art among the people, practiced during the six months of the year when the sun rose least above the horizon. It began when the day was over and lasted late into the night. To be able to tell a good story classed a person as intelligent. Old men recited the adventure of their youth, told how great hunts were carried on, and how the people lived long ago. Stories carried a moral, an explanation, or a bit of history, "more better than bible," as one informant emphasized. The stories were learned by the young from the old, sometimes by a son from his father. There was no individual ownership or privilege connected with the matter; anyone could tell the story.

Of songs there were many kinds, some for dancing, some for mourning,

others to express love. Shamans had their own songs with which to invoke communication with the spirits, some individuals had songs which would bring them luck. Each of these types had its own lyrical and rhythmical peculiarity.

Linked with singing is dancing. Both men and women performed. The dances varied, as did the songs. In some, the action was slower than others. Individual ability counted for a great deal. In almost all cases, it was characterized by jerky, poorly synchronized movements, blending somehow into a harmonized whole.

With ordinary dancing, a tambourine-type drum with a parchment cover made from sheepskin was used. For ceremonial dances such as the potlatch and shamanistic performances, the drum consisted of a plank several feet long, held by two men, each of whom beat time with a pestle-like stick, creating a tremendous din. No other musical instruments were known. The parchment-covered drum was not remembered in the Lower inlet.

The art of painting was not particularly remarkable. Red and black paint was made by pulverizing minerals softened by fire, and mixing them with water. Some informants stated that a little blood was added from the nose to give the paint an adhesive quality; others used fish oil. This paint was applied to various artifacts by means of a piece of tanned skin fastened to a stick. Such implements as spears and paddles were given alternate bands of red and black, in some cases narrow, in others wide. Masks and rattles are also said to have been painted. Most interesting are the rock paintings in caves and rock shelters. These were little naturalistic figures of men and animals said to be records of the hunt, done secretly, and not intended for display. The only ones found were little over an inch in size but surprisingly suggestive of the creatures represented. Cave paintings are said to be common in the region of the Lower inlet.

The art of carving was represented in wood masks, in dolls, dancing-sticks, and rattles. All these articles were appurtenances of the shaman. None could be found anywhere among the people today, but presumably the art was, in type, a variation of that found among the northernmost tribes of the North Pacific Coast area and among the neighboring Kaniagmiut from whom we have examples.

Cures are said to have been effected by the external and internal application of certain medicinal plants. Bleeding was also practised in the Lower inlet.

Measurements of various smaller objects such as bows and paddles were ingeniously regulated by combining the lengths of several body parts. The year was broken into twelve periods, each named after some notable

phenomenon in nature which affected the life of the people. Time and direction was discovered through such natural agencies as the stars and sun on one hand, plant variations on the other. The smoke of volcanoes forecasted the wind.

SOCIAL ORGANIZATION

The social organization of the Tanaina has not remained unmolested by European influence during the past one hundred and fifty years. Where once was a population of a few thousand, now only a few hundred remain. Villages have disappeared, and much of the old way of regarding things. The consciousness of group relationships, which formerly must have been strong, is now weak. It is difficult to get uniform information and evidence, so we must proceed with caution and rather say too little than too much.

There seems to be no doubt that moiety organization was the basis of Tanaina society, the moieties being made up of unequal numbers of matrilineal sibs or clans. The exogamous nature of these clans has largely broken down. Formerly the moieties were exogamous by rule. Differences in dialects and vagaries of memory complicate the difficulty at this late date in clearly defining the names and number of the several clans. Two or three clans belonged to one moiety, and ten or eleven to the other, according to informants. These moieties governed not only marriage but the greater part of social relationship, including such concepts as ownership, inheritance, and blood revenge. The potlatch was also essentially a moiety affair. Of these concepts, we shall treat further.

Clansmen were denoted by their face painting, a description of which was found for a number of clans. From the examples available, it is noticeable that in one moiety the clans used a series of vertical and horizontal lines extending across the whole face, while the other moiety divided the pattern or colors on the basis of the two sides of the face. Moieties were indicated by reciprocal terms meaning "my moiety," "other moiety." These words have singular and plural forms to indicate whether one person was spoken of or the moiety as a whole.

It was most interesting to hear several informants insist that the moiety system was not only essential to the Tanaina, but to the Athapaskans of the Upper Yukon and the Copper river on one side, and to the Eskimo, both north and south of the Alaska peninsula, on the other.

SOCIAL CLASSES

The structure of Tanaina society apparently was bipartite, based on an upper stratum of a limited number of wealthy individuals and their close

relatives on one hand, with the common people, who lived in a state of serf-like dependence upon the plutocracy, forming the other group. It does not seem possible to construe the society as being made up of three classes, since the evidence shows little essential class difference between the members of the upper group, whether they were wealthy, chiefs, or near relatives of the chiefs. Also the lower class does not break up into commoners and slaves. There were no slaves in the true sense of the word. The ultcakas, as we shall call the lower class, were the body of the clan.

In the Lower inlet a clear-cut system of chieftainship was found, based on two ranks, a first and a second chief. The first chief, known in that district as the Tuyok, was a sort of guardian patriarch and a man of wealth. One of his distinct characteristics was that he stayed in the village all of the time. He watched over the well-being of the villagers, arranging that the sick were well attended and women whose husbands were on the hunt had wood and water, and received visitors to the community. The Tuyok has been described as a father looking after his children, paying for the burial of a man without relatives, adopting orphans, and even attending the performances of the shamans. Insight may be gained through an informant's words, "Tuyok belong to town; men belong to outside work."

The dress of the chiefs differed only in degree of richness of ornamentation from that of the wealthier of the community. The office was formerly inherited in the patrilineal line, and if there was no son, by the daughter's husband. Since the period of strong European intrusion, the office became elective, although social position and wealth still governed a choice.

The second chief, or jakacik as he is now termed, was apparently an integral part of Tanaina culture in the prehistoric period. Quite in contrast to the Tuyok, he was often out of the village, the active leader in war and the hunt. He was required to be a man well versed in the crafts and arts, capable of judging the winds and tides. He was "somebody who could watch days good." The office was said never to have been hereditary, the tenant being elected after experience had guaranteed his ability.

Information regarding chieftainship from other Tanaina areas tends on the whole to substantiate that given for the Lower inlet. The names of the two types of chiefs are apparently of Russian origin. The native terms, now generally forgotten, were recorded.

The lower class, or ultcakas, worked for the upper stratum of society. The status of an ultcaka was apparently not permanent, as he might marry into the plutocracy. No pay except food and clothes was given for the services rendered, but it is said that the wealthy patron for whom they worked often gave the necessities for marriage if he were pleased. Without

this type of patronage, marriage was impossible. The class was recruited from within, slightly by captives taken in war, and from the fringes of the upper class. There was a constant moving back and forth where the class lines met. Poor young people often worked as ultcakas, for instance, if their parents died without being able to prepare for them. Ultcakas were clansmen. They were free to offer their services where they pleased but probably kept within their own moiety; if they did not like the head of the household they might move to another. A man who became a prisoner of war, evidently a rare thing, would eventually be as the other ultcakas. In fact, if he had a dependent family, he was sent home with presents after a short period.

SOCIAL LIFE

The average village was made up of a group of houses arranged irregularly around that of the chief. As many as ten families lived in one barabara. In the morning the ultcakas turned out to build the fires, taking wood from the pile against the side of the house. Boys carried water for the women, who prepared the meals. Ordinarily there was one big meal in the evening, but old people and probably others ate a breakfast which consisted of a broth with pieces of fish or meat in it. The eating of the evening meal was communal for all the families in one barabara. Very often the whole village ate together, going night after night to a different barabara, until all were visited, everyone bringing their own eating utensils. Such an action was instigated for example when a child was born, when a person died, or when a boy made his first kill in the hunt. As is easily seen, it would be a commonplace occurrence. Communal eating was not controlled by clan or moiety divisions.

Regarding the reception of guests, the following interesting facts were noted. When visitors arrived by water, the whole population in the village rushed down to the beach to receive them. Their boats were hauled safely out of the water to dry, and the visitors were escorted to the chief's house where they were given food. No pertinent questions were asked before the meal. Guests liked to stay with members of the opposite moiety for several days since they would be distinctly honored. If the visit was a longer one, the people repaired to the houses of their own moiety men, where they felt themselves among relatives.

Women clearly held relatively great authority. Such a statement as that "a husband works hard for his wife" is not uncommon. The woman was the ruler of the barabara. She decided what was to be eaten and had charge of all the food. She also had the final word in deciding the marriage

of her children. Man was only the hunter. Only two male informants claimed superior authority for their sex. One said that men formerly had the upper hand.

When a boy reached an age of about nine years, he went to live with his maternal uncle. This is explained by saying that a father would not be able to force his child into hazardous experiences and vigorous living which would prepare him for a life of bear spearing and sea voyaging. A father would show a paternal weakness. Apparently not the uncle, however, for the child is described as being thrown into cold water and forced to engage in the liveliest exercises. Only when the child had become full grown did he return to live with his parents.

The concept of ownership has been greatly affected by European contact. Formerly property was owned either by the moiety or by members of the upper class. Hunting territory and fishing sites belonged to the moiety. Individuals owned their weapons and tools; and the wealthiest, the barabaras and fishtraps. Men put individual marks on bows and arrows, on tools and weapons. Within the clan there was a very communistic feeling, even with personal objects. A person is said to have been able to acquire a thing from a fellow clansman by merely asking. There was no payment; the privilege was reciprocal and used judiciously.

If a man wished to carry out an ordinary trade with a person of the opposite moiety, he would offer something of at least a slightly greater value as a gift. If the matter was satisfactory to the one who had the desired object, it was sent in return. If he did not make the exchange, he would be shamed by the gift.

The rules of inheritance, like the concept of ownership, have changed greatly owing to European intrusion. In prehistoric times, a person about to die would state that certain things were to be given to specified people, e.g., his wife, son, etc. The remainder would be put into the hands of the moiety in the person of the brother or maternal nephew. It was then distributed at the potlatch following the death.

Partnership as an aspect of social life was a good example of a difficult problem for the ethnologist to work out until it was understood that there were two distinct types of partners. One was the "slu tsin" or partner "not for work"; the other the "seł ten," or hunting partner. The slu tsin was a partner in the opposite moiety who made what was really a protective alliance. Only wealthy men had a slu tsin. Two men who wished to enter into such a relationship exchanged presents of considerable value, perhaps a skin sloop or a sea-otter parka. Diplomatic relationships between moieties were carried on between the slu tsin, and one received and protected the

other while visiting. A man had only one *slu tsin*, and it was in his name that a potlatch for the opposite moiety was given. The *sel ten* was chosen as the opportunity demanded chiefly for the purpose of hunting. A man might choose any other who was agreeable, or even more than one, regardless of clan or moiety. A man who made a kill while hunting would give the game to his partner, a small part of which would be returned, especially if the kill of the hunt was unequally attained. Ordinarily partners were of approximately the same skill so that the distribution was of little material significance. They were generally close friends and formerly never fought, often becoming the medium through which blood revenge was carried out.

Justice was to some degree administered by the chiefs of the Tanaina, but from the lack of information it appears that there was either little need or search after it, murder excepted. Murder was a crime calling for blood revenge from the moiety, if both were involved. Moiety men of different villages discussed the matter and if the blood revenge was decreed, the murderer, if known, was killed by the first to apprehend him. One death sometimes settled the matter, but sometimes the killing went on back and forth. Finally payments might be made to stop the continuation of the revenge. In other cases (probably within the moiety) murders were revenged by sons, brothers, or *sel tens*. Stories credit the avengers with sometimes waiting years to carry out their purpose. Eyes of fear marked the murderer, and he always sat with his back to the sun so that he could watch for the warning shadows.

THE POTLATCH

The potlatch was an active social complex among the Tanaina and even today the ethnologist can see it performed in the more obscure villages. As a specific ritual it varies considerably from village to village, both in memory and in actual performance. An inter-area analysis will not be attempted in this paper, as all the evidence should be presented at the same time on such a complicated subject. Potlatches were divided into two classes, "Little" and "Big," or perhaps "Live" and "Dead" are better descriptive words. All potlatches were essentially moiety affairs. The Little or Live potlatch was given for numerous reasons, ranging from marriage to no apparent cause at all. The Big Potlatch was given in honor of a person who had died. Sweat baths, feasting, dancing, singing, assistance, distribution of gifts with repayment were essential features. A special drum was used and a special costume worn consisting of a feather headdress, a bib necklace of long shell beads, and a specially beaded suit of clothes. A pair of rattles were used, each made from a stick about one foot long wrapped with *babiche* and

quill work from which were suspended strings of bird beaks with bits of still clinging feathers. There was no trace of the destruction of property at the potlatch nor the use of ceremonial coppers.

SOCIAL CUSTOMS

Before a woman was to have a child, a special house was built for her segregation during the birth. Soft grass was strewn thickly on the floor and the mother was assisted by one or two old women who held her in a stooping position. The naval cord was tied in two places and cut. After the child was born the mother lay down until her strength returned. No men were allowed unless the woman was very ill, in which case a shaman was called in to effect a cure. The afterbirth was buried in a dry place, if it became wet, the baby would die. Both mother and child were washed twice a day and charcoal was used as a baby powder to prevent skin abrasions. After about five days the woman was allowed to return to her family.

Children were nursed from one to five years, although sometimes at a very young age they were fed with pieces of soft fish. A name was given by any old person during the first year or two. This name is said to be the only one given, but the custom of calling the parent by the name of the oldest child was also the rule. Babies were kept in either the skin moss bag or in the birch bark cradle chair. There is no evidence for infanticide or that male children were more highly regarded than female. One informant said that girl children were desirable because they were more help to the family. Children were treated with consideration and the worst punishment seems to have been to tie the wrists of a bad child to a willow. Orphans were adopted by relatives or by a chief. Only in the case of weak family connections was there any likelihood of their becoming ultcakas.

At puberty a girl was sequestered in a special shelter or in a room built for that purpose attached to the barabara. The period of seclusion was given by various informants as ten days to a year. Since the time of sequestration was greater in the villages with the least European contact, it follows that these longer periods are the better indications of prehistoric conditions. A special bone drinking-tube, a comb, and a scratching-stick were a part of the regular paraphernalia which also included a hood-like headdress of caribou skin with a long fringe covering the face. The girl was carefully watched over and not allowed to go out except at night when none were around to see her. The mother brought her food, the girl not being allowed to prepare for herself. The food consisted mainly of dried meat, fresh food being taboo. When the period of seclusion was ended, the girl took a sweat

bath and put on new clothes, the old ones being washed and saved for the next time of isolation.

The girl was sequestered at each menstrual period for five days with the same taboos. If a family was traveling, the girl was not allowed to walk in the trail and a special shelter was provided for her. The breaking down of these taboos is pointed out as one of the chief causes of the downfall of the Indian people.

In the Upper inlet, and to a less degree in the Middle inlet, a puberty ceremony for boys existed. Youths were sent out into the woods without food or drink for five days and stayed where no one was around. They might come home to sleep, however, if they were not seen. A head scratcher was used as for girls and for a second period of five days, they drank through a bone tube so as not to be thirsty in later life.

Marriage was formerly a privilege, especially indulged in by the wealthy, who had as many as ten wives. "It is like chickens now," says the philosophizing informant. In the old days a man seldom was married before his thirtieth year. Twenty was the average age of the girl, and the state of chastity was highly esteemed. They were carefully guarded from childhood.

When a man had accumulated enough property and experience to warrant such a step, he sought the permission of the head of his family and clan. A potlatch was necessary and that required wealth and the cooperation of his clansmen. The parents arranged the marriage and are said to have picked out the girl, probably with the connivance of the suitor. The woman was chosen from the opposite moiety, but her parents and particularly her mother were consulted. The girl's power in the matter was only the influence that she could exert personally, which was probably small. Negotiations being started, presents were exchanged and an agreement reached. Then the bridegroom went to live with the chosen companion and worked with his wife's family for several years. By exerting himself he would progress to a position of significance if his family connections were good. He might then return to his own village with his wife.

Divorce, though possible, was very rare; it was expensive. The poorer men waited longer to marry and then perhaps persuaded a widow. For the wealthiest, marriage was almost a matter of purchase.

Death was ceremonially the most important event to the Tanaina. Social pyramids, in the form of elaborate mortuary customs involving moiety action, developed to make it so. Fine clothes were prepared in advance. When a person died the funeral offices were performed by the opposite moiety. The body was washed and the new clothes put on. Then it was

placed in a squatting position with the palms of the hands tied to the cheeks by a spruce root line fastening the wrists and neck. A funeral pyre was built and when the body became stiff, it was placed on top to burn to ashes, punctured during the cremation by special long pointed sticks, which allowed the juices to run out and hasten the disintegration. When the fire had died out, the ashes and bits of bone were collected and buried two feet underground. In the Upper inlet and sometimes in the Middle, the remains of the cremated body were not put in the ground but fastened above to a post or hung in a tree. The hunting implements or personal necessities of the deceased were burned with the body. In the case of a shaman, his paraphernalia were put in a waterproof sack and hung from a branch with his "devil doll's" head protruding from the top.

After the remains of the dead had been laid in their last resting-place, the frenzy of mourning began. The widow in grief might burn off her hair slash her body with knives, and thrust arrows through the fleshy parts of her arms. Not satisfied with this, stinging juices of plants could be added to the wounds which led to a state of delirious sorrow sometimes ending in suicide. Suicide is more common now, when old men live to see the last of their sons die. Following the funeral, in the dark of the early morning and at nightfall, the family of the deceased gathered in his barabara to dance and chant the death songs while from the wooden drum came the monotonous, rhythmical roar, deafening, exciting. From then on the whole family lived for the execution of the potlatch, which would honor the departed and repay the services rendered in his behalf.

RELIGION

The religion of the Tanaina was primitive, and as fascinating and mysterious as it was primitive. Around the winter campfires in the snow of the mountains one heard how the trees and the stones talked just like a man. White men have believed the Alaskan peaks had a message; the Indians knew that they spoke. Even the grass rustling in the wind whistled a warning or a prophecy. They knew that when fire or water marked a man out for their own, there was no escape.

Long ago the animals talked like men, the lynx people taught everybody. They made the land-otter and other animals. Only the wolverine people were dangerous. The ptarmigan and grouse helped men, taught them how to make snowshoes. The owls lost their voice because they would not answer questions. And there was a time even before the animals existed. Then only the black flies lived, and that was very long ago.

Among the supernatural beings of the Tanaina were many devils and

monsters. There was one which barked like a dog, but no one ever saw him. Another made a little noise in the fire. He was harmless. Some were covered with hair and had tails. They could take the form of any animal. They came only in the summer and had two round little eyes that could be seen in the dark at the edge of the timber. They were dangerous. Others were big like spruce trees and disappeared when one blinked his eyes. They left no tracks and hurt no one.

The concept of the Bad Indian was well known. The Tanaina called him Nantina. He lived in a country far to the north across the water, to which place he carried the people he stole. He was much feared by the Athapaskans.

At this time practically all the people are nominally members of the Russian Orthodox Church. Queries about "Nachritahny" brought only the description, "a god who died at two P.M. on Friday and come alive on Sunday." A long pursuit discovered na-qutck-del-tani, a great spirit who lived in the north star and went around the sky all the time. Only a few old people ever saw him as he stood with arms and legs outstretched in the heavens. When people were in distress, they held up their right hand and said, "you who made the people . . .," and then asked for what they wished. The good man was rewarded. Others died.

What happened after death was not certain. The Tanaina said the "breath" given by the great spirit, went up into the sky. The body stayed underground. The "ghost" or "shadow" was sometimes seen, freed from the body before death took place, but it was sure to follow soon. Lingerings, the shadow was a danger, an avenger of injury done in life, passing invisibly through barred doors. A bucket of water was the best protection.

Amulets or lucky stones were also a safeguard to an individual. If you found one inside the house, you gave it away; if you found one outside, you put it in a little bag, and when you caught a ptarmigan you put a few feathers in the bag for the lucky stone to eat. They lived long and had babies every five or ten years.

Closer than gods and more powerful than chiefs were the shamans of the Tanaina. "Abomination and anathema" were these "devil-worshippers" to the Christian priests. Their influence was subtle and never-ending. While the incense rose in the sacred precincts of the white man's church, the throb of the shaman's drum could be heard dimly in the chanting of the mass. Up and down the shaman jumped in the frenzy of his dance, calling on the spirits for aid, whether to serve a good purpose or an evil. The Tanaina had faith in their shamans.

There were two classes, one which was considered beneficial, the other

harmful. There were "big" shamans and "little" shamans. The Big shamans, both "Good" and "Bad," used the same paraphernalia, masks, dancing-sticks with carved wooden heads, and rattles. Coats, covered with clattering beaks and claws, were worn, a peculiar hat, and gloves or bear's paws. Whether to cure sickness or cause death, the means were much the same. If the faith of the people weakened, the "devil-worshippers" walked off the ceiling into the air or disappeared under the ice. When they returned, they beat on their skin-covered drums. The echo is still heard up and down the inlet.

The only great annual feast of the Tanaina occurred at Susitna, among the last of the people to reach the sea coast. It does not seem strange to find the people there celebrating the rite of the First Salmon. This feast took place every year at the beginning of the run of the king salmon. The rite was based on the story of how a rich man's daughter fell in love with a fish at the traps and went away with him. The next year a young boy came back, whom the rich man recognized as his grandson. This child taught the people how to take and prepare the salmon so that there would always be plenty.

The rites embodied the laying of fresh grass, taking of sweat baths, the burning of the lucky weed, and a taboo on fresh fish.

CONCLUSIONS

1. The Tanaina were a tribal group, speaking a mutually intelligible language, occupying an area about Cook's inlet, Alaska.

2. They had a comparatively evenly distributed social culture characterized by an exogamous moiety organization. Other uniformly shared traits were the position of women, partnership, social customs, religious customs, the potlatch, and a dual class system based on wealth. The potlatch was probably the result of diffusion from the North Pacific Coast.

3. The Tanaina had a less evenly distributed material culture characterized by a dependence on both land animals and fish for food, tailored fur clothing with lower garments having footwear attached, shelter in the form of barabaras, semi-spherical lodges, and lean-tos, the simple sled, fine snowshoes, and woven spruce root basketry.

4. That part of the Tanaina area closest to the Kaniagmiut had an obviously Eskimo-like material culture. This is shown by the addition of sea-mammals to the food supply in the Lower inlet, the use of Eskimo type outer garments, the dance house, the kaiak and umiak, harpoons with floats, the sinew-backed bow, the stone lamp, and the absence of birch bark. These developments probably occurred within the last few hundred years

and were gradually influencing more and more of the Tanaina people up until that time when European influence disrupted older processes of change. Also, it is probable that the Lower inlet people made their greatest advance in this direction after the Kaniagmiut had been weakened by the Russian contact of the 18th century.

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ARCHAEOLOGICAL SITE OF
HATO VIEJO, VENEZUELA

By GLADYS AYER NOMLAND

INTRODUCTION

THE Hato Viejo site is located about six and one-half km up-stream from where the Codore river flows into the Caribbean sea. It is also one km north, 70° west of the confluence of that stream with Quebrada El Jebe, in the District of Democracia, State of Falcon, Venezuela.



FIG. 1. Sketch map showing Hato Viejo locality and neighboring islands north of Venezuela.

Recent erosion has produced a network of small gullies which dissect the alluvial flats about 50 m west of the river bank. These have cut into what was, at one time, the site where the Indians lived and interred their dead.

The archaeological material was first discovered by Dr. H. F. Stanton, at that time stationed at Urumaco, Venezuela, as field physician for one of the major oil companies. Mention was made of the occurrence to Mr. L. W. Henry and Dr. J. O. Nomland during a routine visit of geological inspection in the area. At the request of the writer, these three accordingly made a trip to Hato Viejo in January, 1930, and collected the material described in this publication.

In northern Venezuela the seasonal changes are regular and well-defined owing to the periodic character of the northeast trade winds. The climate is semi-arid with only a few inches of annual rainfall, principally during October, November and December. Along the higher mountains inland, the



a



b



c

a, Sherds and bone material exposed by erosion at Hato Viejo site, *b*, lower part of funeral urn (16-2686) still in position, *c*, funeral urn (16-2685) discovered in position by Dr. H. F. Stanton, containing skull and large bones fragments, and with metate (16-2850) in foreground.

rainfall is much greater so that streams heading in the uplands frequently are filled, and the excess water is carried to the sea. Although the Codore is one of the largest streams in the district, water flows through it and reaches the ocean only for very brief periods during the wet season. Nearly vertical beds of sandstone cross the stream, producing barriers of considerable size. Above these the water is impounded in many natural water holes. During the seasonal overflow the holes along the stream become filled so that a supply of water is available even though there has been no rainfall near the coast.

On account of the scarcity of water during some seasons of the year the location of water holes was probably the main determinant of the sites of prehistoric villages in this region. The aboriginal inhabitants evidently took advantage of the impounded supply of water at Hato Viejo and lived there for part of the time. During times of drought, which extended over a period of several months each year, they must have moved to the higher mountainous region to the south.

At present maize is raised during the months of greatest precipitation. Its probable use as food is indicated by the various metate fragments in the collection. Many present day animals, such as deer, peccary, and the large rodent-like species peculiar to this part of South America, must have been eaten, since their bones are associated with pottery sherds in the Hato Viejo site.

Fish must also have been plentiful in the sea a few kilometers to the north. The large number of otoliths of various sizes and shapes derived from several varieties of fish, show that these were used extensively for food. Mollusks also served largely as food. About 80 per cent of the collection consists of shells of the genus *Donax*, now found recent on the beach. In addition, there are a large number of *Tivola* shells. The complete list consists of the following species: *Cardium muricatum* Linné, *Codakia orbicularis* (Linné), *Conus mus* Hwass, *Cypraea mus* Linné, *Donax denticulatus* Linné, *Fascoilaria tulipa* Linné, *Fissurella nimbose* (Linné), *Melongena melongena* Linné, *Marginella prunum* Gmelin, *Murex varicosa* Linné, *Natica pritchardi* Fbs., *Oliva reticularis* Lamarck, *Ostrea prismatica* Gray, *Strombus pugilus* Linné, *Solen rufus* Buck, *Tivola radiata* Gray, *Triton pileare* Lamarck, *Turritella variegata* Linné.¹

The material collected is from a denuded surface midden site and from burial urns found 45 to 60 cm below the dissected surface. The position of the urn, sherd, artifact, and faunal material corresponds closely with that

¹ Identification of material by Dr. B. L. Clark of the Department of Paleontology of the University of California.

noted by Van Koolwijk² in the small island of Aruba, off the north coast of Venezuela, where the graves were overlaid with sherds, faunal material and artifacts at the probable locality of the dwelling site. Broken vessels and fragmentary sherds collected comprise parts of funeral urns, pots, jars, bowls, braziers and other utensils. Some burial urns contained parts of human skeletons, others were empty; some bodies apparently were not buried in urns. One large urn contained the major portion of two children's skeletons. These had been decapitated and the heads placed in smaller urns, which in turn were placed inside a larger urn. Some urns had broken sherds thrown in over the skeletal remains, others contained cobblestones. A black asphaltic ornament was found in one urn (fig. 7*d*). A human adult humerus was examined by Dr. H. F. Stanton, according to whom the curvature indicated rickets. A part of the site was undoubtedly a burial center. Decapitation and the smallness of the urns indicate secondary urn burial.³ Probably most of the sherd fragments came from ceremonial vessels that were "killed" before being deposited. The collection is made up mostly of sherds, there being only a few vessels which show size and form.

Wares represented are given in order of their complexity,⁴ the simplest being the coarse, plain, unslipped, unpainted, gray-brown and red ware, next, the slipped gray-brown and red ware, the geometrically painted black on white; maroon on buff, red on terra-cotta; red on buff; and polychrome black and red on buff. Most frequent is the black on white painted ware; next in order of frequency come the plain gray-brown ware, slipped gray-brown and redware; plain red ware, maroon on buff painted ware; red on terra-cotta; polychrome; and black on red. The black on white varies from black to brown and from pure white through gray to cream. The ware here called black-on-white is designated as brown-on-white by Josselin de Jong.

Apparently the body of the vessel was coiled while the annular bases

² Josselin de Jong, 55 Bibliographic references will be found at end of this article.

³ From Knippe, Curaçao, A. J. Van Koolwijk (Josselin de Jong, 58) discovered bodies in an upright position with the head covered with a second dish and concluded from his observations that: "The Indians, former inhabitants of Curaçao, probably buried the bodies of their fellow-creatures without coffins . . . So I suppose that they first laid down their dead in a grave and covered them with earth, leaving them there till the soft parts of those bodies were decayed, after which they collected the bones and buried them in their huts in the manner above mentioned. I say in their huts, for the spots where I discovered those bones is in the middle of the ancient camp."

This conclusion seems justified in the Hato Viejo site because the small urns could not possibly hold an adult body although adult bones were found in them. Also the observation of the burial in the hut seems corroborated in Hato Viejo, since the sherds, artifacts, faunal material, and burial urns were mixed together indiscriminately in the site.

⁴ Nomenclature of Lothrop, 1. 109-110.

appear to have been shaped by the direct method, as described by Krieger⁵ and Josselin de Jong.⁶ The overlapping of the coils on the inside as described by Roth⁷ and pictured by Josselin de Jong,⁸ is clearly shown by the cleavage of the broken sherds.

CLAYS AND FIRING, SHAPING AND MODELING

Clays of the simpler, cruder types of vessels, such as the undecorated gray-brown ware, all seem to have been derived from the same or nearby pits. Ordinary coarse beach sand and coarsely pounded shell were mixed with it for tempering. Both are visible to the naked eye, while a magnification of twenty diameters shows that the clay of this series has been carelessly washed and worked before adding the temper. The workmanship was also careless, the vessel walls thick (.3 to 1.2 cm), the break always uneven and generally very rough. In the better painted vessels the clay seems to have come from another locality. It is fine and shows a greasy lustre in place of the ashy appearance of the coarser vessels. Finely ground shell, fine beach sand, and, in some of the best specimens, black magnetite beach sand are used for tempering. Firing was probably not carried on at high temperatures. Two vessels of the entire site are the only ones that show oxidation on the outside. The remainder appear to be even less intensely fired, with few traces of discolorations or streaking. All of the simpler, plain wares are coarser than the more complex slipped, modeled and painted wares.

UNSLIPPED, UNPAINTED WARE

Plain Gray-Brown Ware.—The nine pieces of this series include bowls, jars, funeral urn and stove censer. They are all circular and show undecorated recurved, direct and outcurved rims which are relatively high (3 cm), thin and solid (fig. 2*a*, *c*, *p*, *r*; Josselin de Jong, pl. xvi 3, 21, 25).⁹ Three vessels have annular bases, the largest of which is 12 cm in diameter. One shows four free supports which have broken off. Another fragment shows a luted, looped handle, probably an ornamental figurine head, broken from the upper segment of the body and lost. The stove censer has an annular base 12 cm in diameter and 3.5 cm in height which has two opposed air-draught holes 1.75 cm in diameter. This specimen of stove censer is large and apparently utilitarian. It shows considerable use on the inside, the bot-

⁵ Krieger, 1926, 64.

⁶ Josselin de Jong, 63-64.

⁷ Roth, 131, fig. b.

⁸ Josselin de Jong, 62-63; fig. 14; pls. 17, 29.

⁹ Josselin de Jong, 62-63.

tom having become much roughened, probably from frequent scraping. Discussing censers with air-draught perforations, Linné says¹⁰

This vessel may possibly be supposed to have been used for incense-burning, but may equally well have been employed in metallurgical operations.

Certainly the above specimen lends color to this supposition when compared with the other small, decorated, delicately made specimens of the more complex painted type to be described later. Of small size, thin-walled and elaborately decorated, they were probably not intended for ordinary use. In the same discussion, Linné also states that:

The custom of incense burning is beyond a doubt a loan from the high cultures of Central America . . . Its sparse occurrence in South America must be due to it having been more generally diffused only in comparatively late times.

In the Hato Viejo site, incense censers are not of sparse occurrence. They are represented in the gray-brown unslipped ware, red unslipped ware, and three specimens are encountered in the black-on-white painted ware. They are lacking in the other painted wares, but since the occurrence of such wares in the site is slight, this fact does not prove their absence there. Lothrop¹¹ shows one figure of this type of vessel from Costa Rica and Nicaragua, while Krieger¹² has four figures for southeastern Panama. If these are proportional to the other wares shown, they accord well with the occurrence in Hato Viejo.

Corrugated Necked Vessels.—Corrugated necked vessels are shown in five fragments of large pots. The corrugations are overlapped and roughly pinched on to each other, smoothed on the inside and allowed to remain rough on the neck for decoration. The top coil is thinned and trimmed or beveled on the edge. Three coils are usual, but four occur in two instances (fig. 2*f*, *k*, *n*). These vessels show outcurved or straight thin rims, beveled and rounded, from 2.5 to 5.5 cm high. A two-finger handle occurs in one smaller vessel which is luted onto the upper segment of the body and the top coil of the rim, making a continuous line between the out-rolled rim coil and the handle (fig. 2*i*, *j*). These corrugated wares are comparable to those described by Roth,¹³ Krieger,¹⁴ and especially by Josselin de Jong.¹⁵

Punctate Necked Vessels.—Punctate necked vessels are of better mixed

¹⁰ Linné, 1929, 259.

¹¹ Lothrop, 1, 126, fig. 32.

¹² Krieger, 1926, pl. 13, figs. 2, 3; pl. 14, figs. 1, 3.

¹³ Roth, 131.

¹⁴ Krieger, 1926, 64.

¹⁵ Josselin de Jong, 63; figs. 14, 14*a*; pl. xv, 2-4; pl. xvi, 15-18, 20-23.

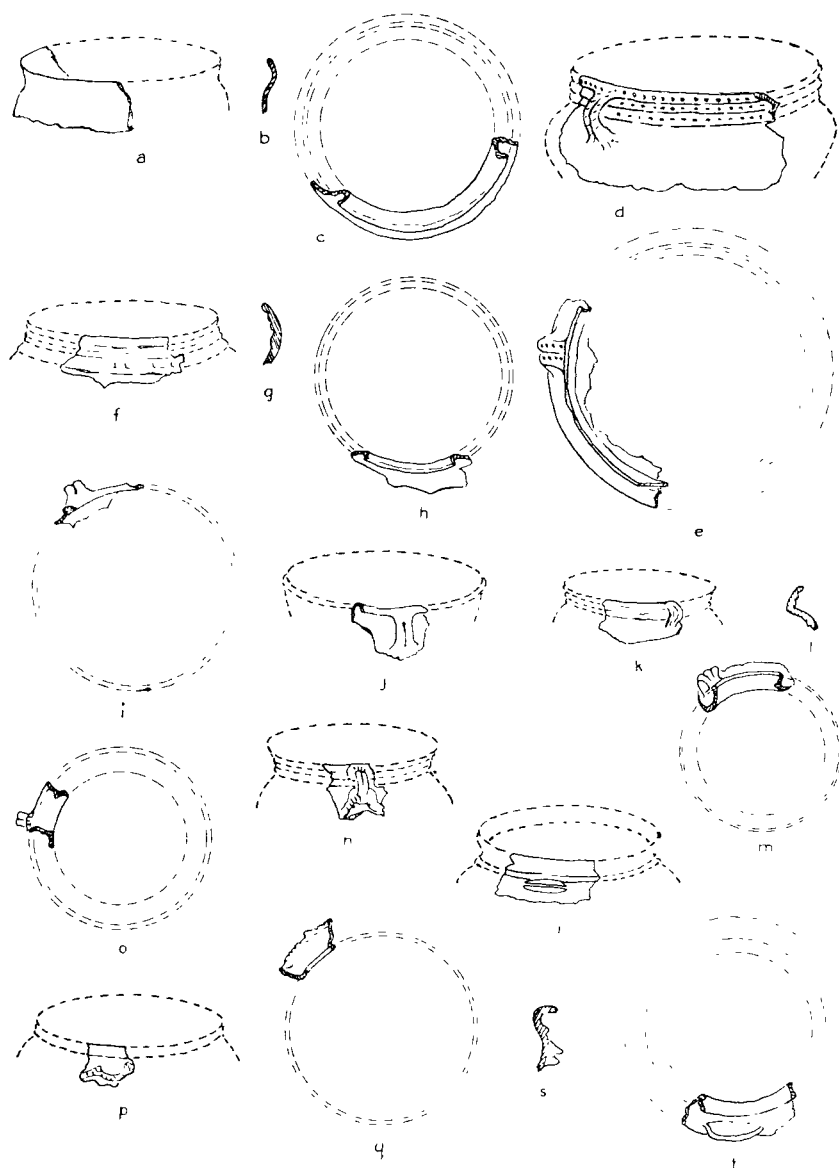


FIG. 2. Unslipped, Unpainted Ware. *a, b, c*, funeral urn (16-2685) showing side, vertical and cross section views: $\times 1/16$; *d, e*, side and vertical views of punctate necked bowl (16-2706): $\times 1/6$; *f, g, h*, side, cross-section, and vertical views of corrugated necked vessel (16-2705): $\times 1/16$; *i, j*, vessel (16-2712) showing front and vertical views of two finger handle: \times ca. 1/10; *k, l, m*, side, cross-section and vertical views of three finger handle vessel (16-2711): $\times 1/8$; *n, o*, side and top views of corrugated necked vessel (16-2815) with stylus decorated handle: $\times 1/8$; *p, q*, front and vertical views showing plastic body decorations on bowl (16-2709): $\times 1/20$; *r, s, t*, side, cross and vertical view of vessel with split node handle and trimmed neck (16-2723): $\times 1/8$.

paste, firing and workmanship, smaller in size and thinner-walled. All examples have two-finger luted-on handles extending from the upper segment of the body to the rim coil (fig. 2*d*), (three- and four-finger handles shown by Josselin de Jong.)¹⁶ One vessel is burned red on the outside and two are blackened by fire. Decorations consist of punctures spaced evenly on the coils similar to those on vessels shown by Linné¹⁷ from Triganá, Colombia, by Josselin de Jong¹⁸ from the islands north of Venezuela, and also described by Krieger¹⁹ from Santo Domingo. Krieger designates this style of decoration as

This archaic design pattern which appears also on South American earthen ware vessels from Venezuela and Colombia.²⁰

This statement is not warranted for the Hato Viejo site, since there is no stratification from which conclusions can be drawn. Pottery from widely separated regions often bears the same symbols; for example, punctate necked pottery fragments from the Kulki river, Kamchatka,²¹ are almost identical with those of Hato Viejo, yet there is no proof of cultural connection. One specimen of this ware shows a coil around the handle ends which is stylized evenly, while the handle and neck remain plain (fig. 2*n*; Josselin de Jong, pl. xxi, 21). A fragment of a large globular bowl or jar of very coarse clay, shell and sand, 1.2 cm in thickness has a straight neck 3 cm high, which is encircled by an incised line at the joint between neck and body. A long, meandering roll of clay representing an anthropomorphic arm and hand decorates the upper segment of the body just below the high shoulder ridge. The modeled arm is deeply cross-incised and decorated with a split node on the up-curve. The hand is an enlargement of the clay roll into a raised node, and fingers are represented by three deep transverse incisions (fig. 2 *p*). These meandering rolls of clay are called by Josselin de Jong²² plastic frog-leg decorations. He classes rolls of clay terminating in split rim nodes as claws gripping the rim and characterizes most curved raised ridges with knobs as essential characters of frog decoration. This may or may not be true for Hato Viejo, since no complete frog figure is present in the collection. The material described and pictured for Aruba, Curaçao and Bonaire is so similar that such figures probably existed but are not shown on the fragments. However, Krieger²³ shows a pitcher vase from Tule pottery with an effigy head and plastic modeled arms and hands on the upper

¹⁶ Josselin de Jong, pl. xxi, 22.

¹⁷ Linné, 1929, 34, fig. 9C: F, H, I.

¹⁸ Josselin de Jong, pl. xv, 6-15; pl. xxi, 1-4, 21-22; pl. xxii, 24-26.

¹⁹ Krieger, 1931, 53, 54; pl. 25, figs. 1, 2, 4.

²⁰ Krieger, 1931, 54.

²¹ Jochelson, pl. 19.

²² Josselin de Jong, 80-81; pl. xviii, 57.

²³ Krieger, 1926, pl. 14, 5.

segment of the vessel, which certainly are not frog characters although resembling Hato Viejo specimens.

Another variant of the general ware is a globose bowl or jar approximately 17.5 cm in mouth diameter, which shows a solid, low outcurved neck with a rounded edge. The base of the neck is concave, with a well defined convex coil encircling the vessel under the concave neck. This coil is not laid on, as in other instances, but shows clearly that the entire neck and rim were shaped from the moist clay of the body and neck by a cut-out trimmer or shaper such as that described by Linné²⁴ and others. The handle of this bowl is also aberrant and is the single representative of its kind. It is an elongated split node 3.8 cm long, placed horizontal to the neck on the extreme upper segment of the body. The ware is very thin (.3 cm thick), of pure, finely mixed clay, which differs from that of the other vessels. It is tempered with black beach sand and has a high ringing tone when handled or struck with another object (fig. 2*r, s, t*).

A large, hollow, luted-on "mammiform" type of decoration, 7 cm in diameter, has a slightly constricted neck and three flattened nodes surrounding the unflattened nipple. It is the only representative of this type of decoration described by Fewkes²⁵ for Porto Rico. Another variant of the corrugated-neck type of vessel is a globular pot approximately 17 cm at the mouth, with a high shoulder, showing one two-finger handle made of two rolls of clay luted on at the bottom to the upper body segment and pinched together in the median line. Each clay coil of the handle is separated at the rim, encompassing the edge and encircling the entire vessel. This forms a solid out-rolled rim continuous with the two-finger handle. It is a very soft, fine ware with black sand for temper. There is no assurance that there were not two handles to the vessel (fig. 2, *i, j*).

Red Ware —The six pieces of this ware follow the general description for the plain gray-brown ware characterized by coarse, ill-worked red clay, shell temper, poor firing, careless workmanship, but thinner-walled vessels (.5 to .7 cm thick). According to Josselin de Jong, the red ware of Aruba, Curaçao and Bonaire may be baked through with a wash of finer material or red dye applied to the surface, but there is no corresponding wash on the red ware of this series, and the clay itself appears to have been colored.

The vessels identified from the fragments are large jars and bowls, probably ceremonial or ritual vessels, since they show no evidences of use, and were probably "killed," as were the rest of the wares of the site. The plain red ware shows the same plain thin, direct, straight, outflared and

²⁴ Linné, 1925, 94.

²⁵ Fewkes, 1907*a*, 186.

outcurved necks with beveled edge and no noticeable joint between neck and body. One specimen has a punctate decorated coil of clay luted on to the neck at the junction of neck and body.

Handles show considerable variation. The circular loop handle is luted on from the upper segment of the body to the rim. A very large looped handle (3.5 cm across and 7.2 cm from the luted-on end to the break, which seems to be about midway), is composed of two rolls of clay smoothed on the outer surface and allowed to remain rounded on the under side. This handle is decorated at its joint with the body by a design of opposed incised triangles filled with irregular punctations (fig. 3*d, e, f*). A funeral urn lid with its flat-domed body and very outflaring rim is decorated with a flattened loop handle. The handle spans a very short space between the rim and body and is ornamented with a triple incised node on its greatest curvature. Josselin de Jong²⁶ says that the incised node may be a human nose or frog leg blended in their conventionalized form. In Hato Viejo the split or double-crossed incised node is used as a separate element of ornamentation, and, so far as can be ascertained, does not coincide with his analysis. Broad, flat, node-decorated handles, roughly quadrangular in form, are characteristic of all wares of the site.

Body decoration consists of deep stylus punctures encircling the upper segment close to the neck, and coils of deeply cross-incised clay rolls modeled on the body in the same position (fig. 2*p*). One fragment of a small straight-legged, six-toed foot, decorated with a twisted clay anklet appears to have been a free support for a small vessel. The specimen is 3 cm from toe to break, 2 cm in widest diameter, and appears to have been made from two clay coils pinched together in the median line, then smoothed and decorated. The toes are represented by transverse incisions. The little specimen suggests the intention of a human representation, but the lack of arch, vamp and heel probably indicates an animal. The friable, poorly fired fragment shows considerable wear on the palmar surface. An identical specimen is pictured by Josselin de Jong.²⁷

SLIPPED WARE

Gray-Brown Ware.—Slipped ware is usually of better mixed clay, finer temper, although still mainly shell, thinner-walled (.5 to .8 cm) and better manufactured. The slip is applied either outside, inside, or on both sides. It appears to be a thick paste-like clay ranging from gray white to cream because of differences in weathering. Some slips have a distinct body and

²⁶ Josselin de Jong, 81.

²⁷ Josselin de Jong, pl. XXI, 33.

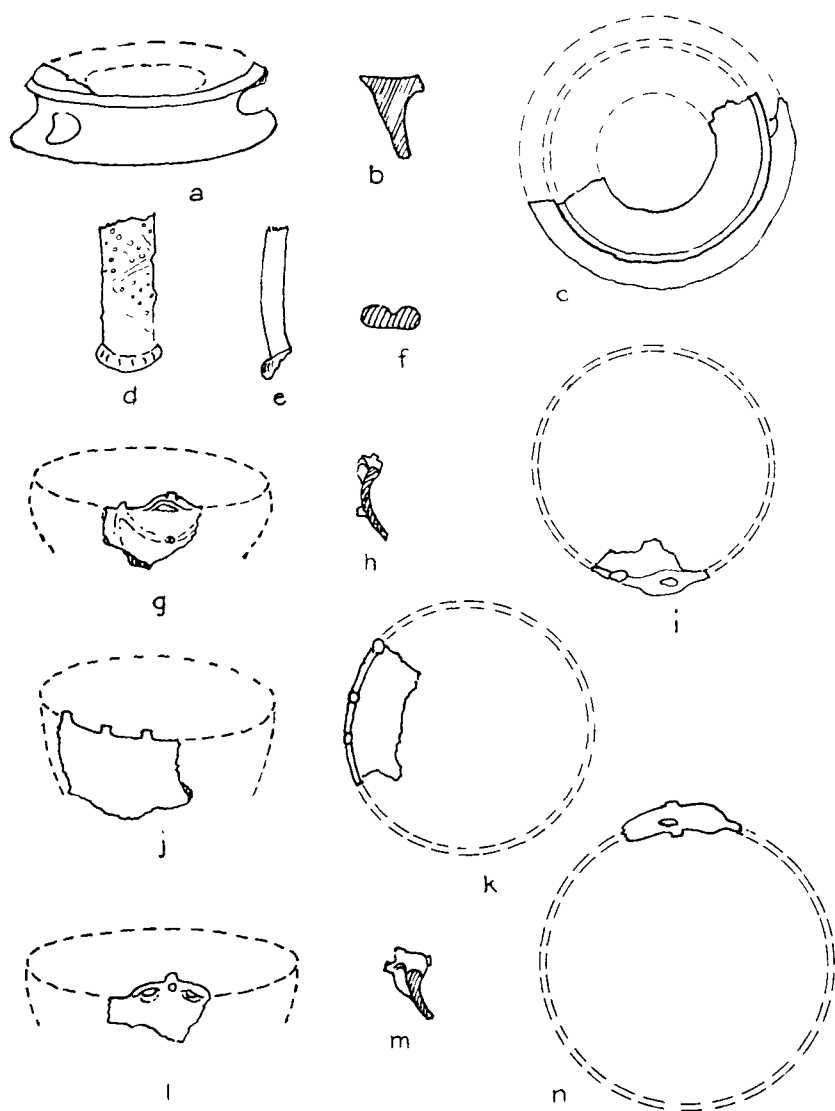


FIG. 3. Slipped Gray-Brown Ware (*a, b, c*); Unslipped Red Ware (*d-f*); Slipped Redware (*g-n*). *a, b, c*, side, cross section and vertical view of ring base (16-2713): $\times^{3/10}$; *d, e, f*, front, side and cross-section of incised handle (16-2780): $\times^{3/10}$; *g, h, i*, side, cross-section and vertical views of raised looped handle bowl (16-2698): $\times^{3/8}$; *j, k*, side and vertical views of bowl (16-2808) with raised node rim: $\times^{1/4}$; *l, m, n*, three views of bowl (16-2821) with double looped rim handle: $\times \text{ca. } \frac{3}{8}$.

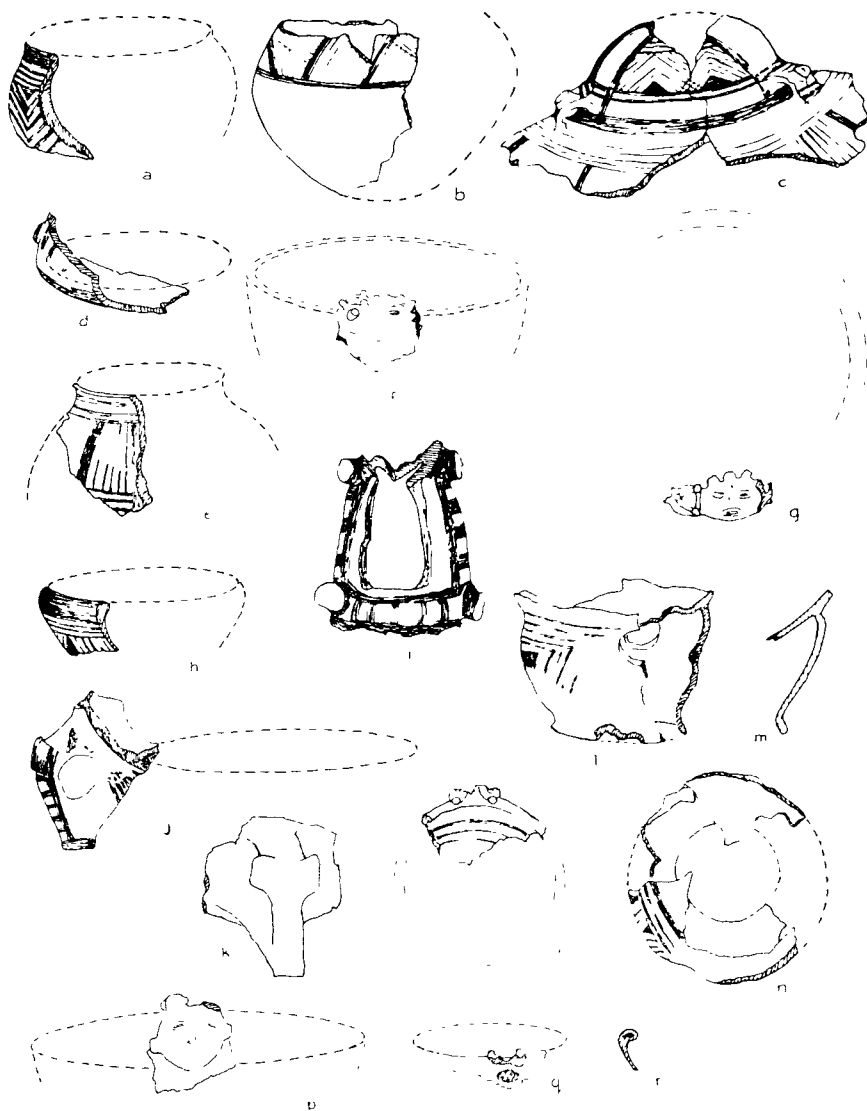


FIG. 4 Black-on-White Painted Ware *a*, decorated bowl (16-2739) $\times 1/4$; *b*, painted funeral urn (16-2686) ca. $1/12$; *c*, painted funeral urn cover (16-2681) $\times 1/8$; *d*, shallow food bowl (16-2804) $\times 1/4$; *e*, deep jar (16-2790) $\times 1/8$; *f*, *g*, bowl (16-2732) with "bloated face" rim decoration and handle, showing side and top view: $\times 1/8$; *h*, painted bowl (16-2770) $\times 1/12$; *i*, hollow leg (16-2702) $\times 1/2$; *j*, *k*, side and front view of zoomorphic feet with adherent bowl fragments (16-2760) $\times 1/4$; *l*, *m*, *n*, side, cross-section and top views of pottery stove (16-2679) $\times 1/8$; *o*, bowl with inside painting and raised rim figures (16-2694) $\times 1/8$; *p*, "bloated faced" figurine (16-2754) $\times 1/4$; *q*, *r*, side and cross-section view of hollow rimmed vessel (16-2779) $\times 1/4$.

may be peeled off with a knife, others more commonly resemble plaster which may or may not flake off easily.

Vessels of this series are three funeral urn covers with their characteristic wide, flaring rims, quadrangular looped handles with raised node decoration; three annular supports for censers and bowls; hollow rimmed wide mouthed jars with luted-on handles, possible anthropomorphic or zoomorphic figures; solid direct rim with raised nodes on the margin, resembling those pictured by Josselin de Jong for Aruba, Curaçao, and Bonaire (pl. XVIII, 38, 42, 45), (fig. 4*c, f, g, p*; fig. 3*a, b, c*). There are several large coarsely made and tempered globose bowls with modeled arms and hands, cross-incised and plain, on the body of the vessel. Two annular bases are convex and outcurved where they are incorporated with the entire bottom of the vessel; one is straight-walled and luted onto the bottom of the vessel with free spaces between the joints, like the censers. One censer base shows no evidences of use, although there are four air-draught holes (1.3 cm in diameter) in the annular base. The slip is worn off through weathering but the vessel is not blackened. Another censer base (3.5 cm high) has been luted onto the bottom of the vessel with air draughts through the free spaces between the joints. It is made of coarse material with heavy shell and sand tempering, while the two annular bases of finer mixed clay and shell temper have a ringing tone when handled (fig. 3*a, b, c*). The thin ringing specimens have decorations of raised, knobbed rims, modeled arms and hands, raised split nodes on the body and a heavy circular handle, or zoomorphic and anthropomorphic figurines luted to the upper body and marginal to the rim. Hollow rims are both incurved and inrolled. Funeral urn tops, similar in design to the finer black on white painted ware, have the quadrangular looped handle which is characteristic of this type of vessel. They are usually decorated with a raised node just above the greatest curvature, and many times a roll of clay is laid on the loop handle at the edges and insertions, forming a square with the raised node in the center (fig. 4*c, f, g, o*). Raised nodes widely separated, and without pattern or grouping, decorate the rim and body of vessels.

Two fragments of vessel rims of good slipped gray-brown ware have raised looped handles running parallel to the rim. The clay ribbons forming the loops above the rim are much flattened medially and decorated with the ubiquitous raised nodes (fig. 3*g, i, l-n*; Josselin de Jong, pl. XIX, fig. 44). One small fragment, of rather coarse ware, has a heavy clay slip, which is decorated with very fine parallel incised lines, eight or nine to each band, which are crossed in a diamond pattern (fig. 8*j*).

Red Ware.—This ware also runs from coarse, poorly mixed to finer bet-

ter worked clay. Out of the eleven pieces represented in the group, eight are annular bases of three different types, and three of them upper body segment and rim, showing raised ornaments and horizontally extended loop handles (fig. 3 *g-i*, *l-n*). The bases are of coarse to medium fine red clays, from .25 cm to .7 cm in thickness. They are 2.5 to 4 cm in height and almost straight, with some convexity at the middle and a concave depression at the point between the base and the vessel proper. There is very little difference between the sizes (8.5 to 11 cm diameter), and they show no evidences of use. They are slipped with a thick, pasty red clay, which has become somewhat streaked with black in firing. Five of the eight bases are undecorated, two have slightly outcurved rims with punctations spaced evenly around the base and body joint; one is the censer type of base described under the slipped gray-brown ware and has a heavy cream slip over the red. This sherd has a red slip inside and a raised node decoration at the point where the base is luted to the body of the superimposed vessel. The base or ring proper was apparently modeled in one piece and reinforced by a roll of clay on the inside and outside of the pot at the joint. All of the bases with adherent pieces of the vessel show that the superincumbent pots were very slightly rounded on the bottom and flared out at almost right angles to the ring, indicating that the pots must have been of large size. Their uniformity of size, color, decoration, and lack of evidences of use, as well as the paucity of sherds adhering to the ring bases (fig. 4*j*), all point to ceremonial or ritual vessels that have been "killed." The luted-on one-piece type of base probably separated from the body intact, while the vessel bowl was broken into indistinguishable fragments. Three sherds showing body, rim, and handle, all represent globular bowls with incurved hollow ornamented rims. Two pieces have the raised, horizontally extended handle of one loop only; however, double, or even multiple handles may have been present and not shown because of the small size of the sherd. The single loop handle is ornamented on top with raised smooth button nodes or the cross-incised node simulating a hand at the end of plastic modeled body decoration. Such body decoration appears on two specimens but not in the third.

PAINTED WARE

Black-on-White.—The sixty-six pieces of black-on-white ware are of distinctly better quality than any thus far described. The sherds of this ware are much thinner and have a distinct "ring." Clay is fine and well mixed with finely ground shell or black magnetite beach sand for temper. Vessels are carefully made and well fired. On the whole, the painted decoration is executed with much skill although careless work appears at its side.

The vessels represented are funerary urns, stove censer bases, bowls, jars, etc., described under the simpler wares, but with additional forms appearing, either coincident with the numerical increase of sherds, or concurrent with increased complexity of design and form. Bowls are both painted and modeled. Jars are globose and thicker-walled than other painted ware. They show outcurved, direct, and inrolled rims and are ornamented with painting outside and inside. Geometric rectilinear and triangular designs appear with some incised node modeling (fig. 4*a-c, e, h-j, l-o*; fig. 8*a, k*). The most characteristic new forms are the pottery stand similar to that described and figured by Lothrop and Dorsey;²⁸ the flat, dome-like, wide, outflaring rimmed funerary urn lids; two anthropomorphic marginal figurines of the "bloated-face" type described by Krieger²⁹ for Santo Domingo; two hollow legs broken from the vessel which they supported, similar to the tripod legs from Central America; zoomorphic handles and rim figurines and parts of funerary urns (fig. 4*c, f, g, i-k, o-q*) one of which contained the skeletal remains of two children previously mentioned.

The pottery stand is 12 cm high and 20 cm across the top. It has two round air-draught holes 3.5 cm in diameter, on and above the equatorial ridge of the vessel. The curious inward-dipping lip is the only representative in the collection and differs from the stands shown by Lothrop in having a thin, wide rim flaring toward the center of the vessel. Both the outside of the stove and the in-dipping lip are decorated with black line design on a dull white slip (fig. 4, *l-n*).

The funerary urn lid measures 30 cm from one broken edge to the other. It is possible only to approximate the size of the lids, but since the opening of the largest urn approximates 47 cm in diameter, the lids must have been of slightly larger diameter in order to cover the mouth. It is decorated with broad and narrow encircling, opposing and triangular black lines on a flat white slip. Two flat, quadrangular looped handles, in addition to being painted, are decorated with a cross-hatched raised node at their greatest curvature (fig. 4*c*).

Double-looped rim handles, horizontally extended, are plentiful in this ware. The plain loop seems to be a terminal coil pinched out flat and raised above the margin of the rim. Elaborations of this type of handle reach the highest development in the large human, "bloated-face" marginal figure placed in the center of a double-looped handle as a rim decoration. The head is 5 by 5 cm in diameter with three upright nodes simulating a head-

²⁸ Lothrop, vol. 2, 368, fig. 260*a*, pl. CLXXXVII, *a-f*, Dorsey, pl. CII

²⁹ Krieger, 1931, 50.

dress, which Krieger³⁰ says is probably a feathered head-dress. The stirrup-shaped top of the looped handles is a prolongation of the sides of the face, which in turn is decorated with rolls of clay luted on the margin and ornamented at three corner angles with a plain raised node. The eyes of the figurine are formed by an applied ribbon of clay with a central slip, which is the "coffee bean" type spoken of by Krieger³¹ as a rare, archaic form for Santo Domingo and described by Spinden for the valley of Mexico.³² The nose is triangular in shape and placed well above the eyes, while the mouth, also of the coffee-bean type, is luted onto the modeled face (fig. 4*f, g*). The eyes and mouth of the other figure follow the same general description as those of the above described specimen. The head-dress consists of two horn-like projections. The nose is represented by a raised node, in normal nasal position, with two deep incisions across it for the nostrils. Ears show pits for decorations (fig. 4*p*). Modeled plastic and painted anthropomorphic figurines are shown by Josselin de Jong³³ for Aruba, Curaçao and Bonaire. He calls them frogs with human heads³⁴ and suggests that:

The whole category refers to mythical beings; in which case the peculiar, half-human, half-animal character of these faces would, at least a priori present no difficulty.³⁵

This opinion coincides with that of Holmes³⁶ for the figurines of Chiriqui: I feel inclined to take the view that in their present condition they are survivals of ideographic originals, . . . The animals made use of originally were the embodiment of mythologic conceptions, and their images revered or served as fetishes or charms, and because of this they came to have a permanent place in art.

Many rims continue to follow the forms of simpler, plain and slipped ware, but new forms, as well as a greater abundance of hollow rims, appear in the modeled and painted ware. Plain raised nodes encircling the vessel on the margin of the rim as terminations of the modeled meandering arms are common and apparently only for decoration.

Two hollow legs similar to the tripod legs from Central America are broken from the vessel they supported. The hollow orifice is wider at the top than at the bottom, which suggests that they may have held clay pellets or pebbles, as is so common in the Central American wares. They are ornamented with raised nodes outlined with black lines and painted cross-hachure between the lines (fig. 4*i*). Cross-hatching in pigment seems to take the place of cross-incision of the simpler wares, and modeling is embellished with painting in this series.

³⁰ Krieger, 1931, 55.

³¹ Krieger, 1931, 54.

³² Spinden, 52, 53.

³³ Josselin de Jong, 71, figs. 23, 23*a, b*.

³⁴ Josselin de Jong, 81.

³⁵ Josselin de Jong, 85, pl. XVIII, 35-55.

³⁶ Holmes, 66.

Crudely modeled zoomorphic base supports (fig. 4j, k) and marginal rim figurines are encountered combined with painting. Most zoomorphic marginal figurines are present on the inrolled, hollow rim. Various ornaments in relief, such as heads, handles, legs and bases of vessels, were usually constructed separately and luted to the walls. The relief work is conventionalized and grotesque, probably representing such tutelary images as Holmes³⁷ mentions for Chiriqui.

Funeral urns are approximately 42 cm in equatorial diameter and 30 cm or more in height. They have an almost pointed base, and are painted in rectilinear and triangular designs on the incurvature of the upper segment (fig. 4b). Josselin de Jong speaks³⁸ of unpainted urns but with traces of polish from the islands north of Venezuela. This feature is lacking in the Hato Viejo site. One specimen of a shallow food plate is all that is found in the site. It is not of the crude, undecorated, undifferentiated type described by Krieger³⁹ as an early Arawak form, but is well made, tempered and fired, and is painted on the incurved upper exterior walls. It has many marks of the smoother on the inside floor (fig. 4d).

The continuing forms are bowls, jars, urns, censers, etc., similar to those of the simpler wares, which are elaborately painted in geometric designs.

Censer bases are finely made and elaborately decorated in painted triangular and rectilinear designs combined with the painted cross-hatched raised node (fig. 8k). Josselin de Jong⁴⁰ shows a similar specimen, which he called a "handle with a foot-like projection."

Red on Terra-Cotta.—The four pieces representing dark red on terracotta are all figurine heads. Two are hollow luted-on animal heads, one ornamented with a ring of clay and punctations around the end of the long snout, the other painted in fine lines across the snout, and in solid red over the upper part of the head and upstanding ears. No eye representation occurs in these figures, but the ears of both are small and upright like those of the armadillo (fig. 5b, d; Josselin de Jong, pl. xix, 8, 11, 16, 36-42; p. 71, fig. 24, 24a). The other two specimens are animal heads luted to the body above the equatorial zone of the vessel, with the hollow snout pointing upward and forming a spout for the vessel. The eye forms of the two specimens are quite different. One (fig. 5c) has a roll of clay luted on around a circular button. The other (fig. 5a) has a large triangular incision with a central button of clay, which simulates an alligator eye. Both specimens are painted: one all over the outside, and the other on the upper concave surface.

³⁷ Holmes, 152.

³⁸ Josselin de Jong, 65, 78.

³⁹ Krieger, 1931, 64

⁴⁰ Josselin de Jong, 71, pl. xviii, 23.

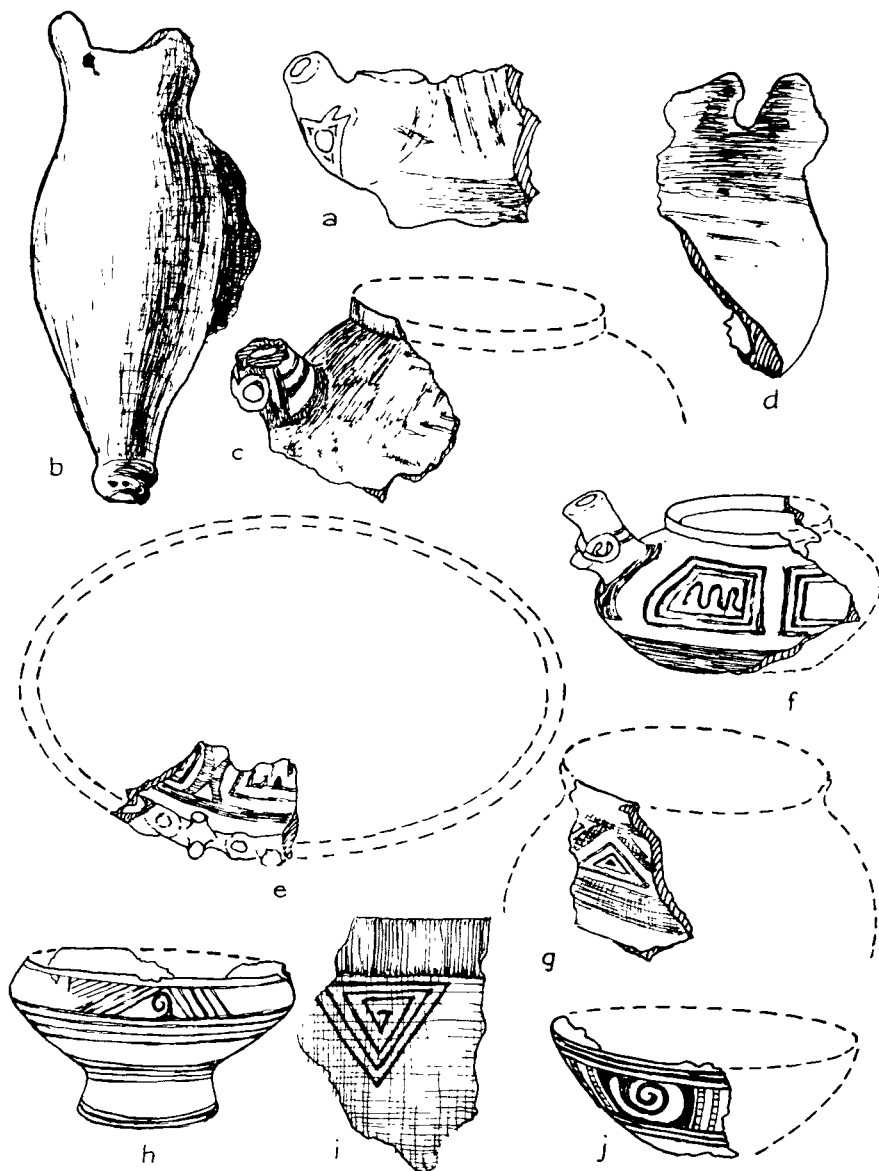


FIG. 5. Red-on-Terra Cotta (*a-d*); Maroon-on-Buff (*e-g*); Polychrome (*h, i*) and Black-on-Red (*j*) Wares. *a*, animal head spout (16-2783): $\times \frac{3}{8}$; *b*, animal head decoration (16-2874) $\times \frac{3}{4}$; *c*, vessel (16-2758) with animal head spout. $\times \frac{3}{8}$; *d*, lug (16-2757) with animal head decoration $\times \frac{3}{4}$; *e*, shallow dish (16-2820) with inside painting. $\times \text{ca. } \frac{3}{16}$; *f*, vessel (16-2682) with animal head spout: $\times \frac{3}{16}$; *g*, deep bowl (16-2692): $\times \frac{1}{4}$; *h*, polychrome bowl (16-2683). $\times \frac{3}{16}$; *i*, decorated fragment (16-2766): $\times \frac{3}{4}$; *j*, black on red painted bowl (16-2690): $\times \frac{3}{16}$.

Red-on-Buff.—The red-on-buff series contains one painted, conventionalized, animal-head representation, which serves as a luted-on, free base support; three fragments of bowls; and one annular base. The animal head has no eyes or other indicative features except the general shape and up-standing armadillo-like ears. Design elements for the bowls and base are the above-mentioned encircling and opposed broad and narrow lines.

Maroon-on-Cream.—This ware is differentiated from the red on buff by the paste and workmanship. It contains both coarse, thick, heavily shell-tempered painted and modeled ware, and also a thinner light colored clay ware, which is embellished with carefully executed and more complicated design elements. The heavy, cruder ware shows raised rim nodes and circular button eye elements, combined with modeled and painted design on the outside, and painted design inside.

Two bowls are painted on the upper segment with a wide band of opposed lines and triangle (fig. 5e, g). This ware also shows the flat, horizontally extended marginal loop handle. The most complete piece of the series is a small jar of thin paste showing a slightly out-flaring rim and animal head figurine spout on the upper segment of the vessel. It has a painted band design of repeated units, which extends to below the equatorial shoulder (fig. 5f). This feature is unusual except where there is an all-over design.

Black-on-Red.—Black-on-red painted ware is represented by one piece only. It appears to be alien to all other wares in the site. It is of different, very compact clay which is tempered with a few quartz sand grains and very fine shell fragments. It has a greasy luster in fracture. The thick red paint has penetrated more deeply than in other wares and shows small fractures filled with pigment extending into the vessel. The design, while maintaining some elements of the other wares, such as the open scroll and encircling lines in a band on the upper segment, shows finer brushwork and more facile handling of the design elements. A double ladder motif is used, which is not found in any other decorated ware. The specimen appears to be from a more highly developed pottery technique and may have been a trade piece (fig. 5j).

Polychrome.—Polychrome vessels are represented by one almost complete ring-base bowl of superior grace and symmetry, and four fragments of indistinguishable vessels, painted in geometric triangular design of parallel lines in black and red on a cream background. The ware is medium thin and heavily tempered with finely ground shell. The ring base bowl is decorated with brown-and-tan repeated units in a band design on the upper concave sector of the body. The remainder of the bowl has bands of encircling lines of tan on bright red. Most of the design is worn off, leaving an under slip of bright red paint (fig. 5h). The four fragments are similarly colored in geometric designs of parallel lines (fig. 5i).

STONE IMPLEMENTS

Stone implements recovered from the site include axes of various sizes and shapes, hammers, an oblong pestle, fragments of a metate, one grinding-stone, a gouge, petaloid celts, and problematical pieces of polished stone, quartz, hornblend, granite and red jasper. The latter three substances are not now found in that general vicinity. Some of the highly polished implements are made of a greenish basic intrusive rock which is also not known from that locality but is definitely known to occur in outcrop on the Paraguaná peninsula.

Axes are broad-necked, narrow-necked, asymmetrical, and with notched top. They are manufactured from both black and greenish stone and bear a high polish and a sharp cutting edge (fig. 7*n*). They range in size from 5.5 cm to more than 8 cm in length, 3 to 5 cm wide and from 1 to 2.5 cm in thickness. Some are polished all over and others remain rough near the top. The notched specimen is 3 cm wide at the cutting edge, 4.5 cm from edge to the notch, which is 3 cm wide from point to point, and 5.5 cm from the cutting edge to the outer angle point (fig. 7*g, h, i*). Side view of the specimen shows that it is asymmetrical.

Two hammers are found in the collection. The larger one is broken at the top and appears to have been originally a large axe blade. The other is an asymmetrical oval with straight sides and highly polished surface. It is made of the Paraguaná green stone and shows traces of having been used both as a hammer and polisher. The top portion is broken so that no estimate can be made as to its length or possible finish (fig. 7*a-c, e, f*; Josselin de Jong, pl. xxiii, 104). The pestle fragment is of coarse sandstone, oval in shape and tapering to the poll pointed handle. The metate is made of the same material. All that can be told of the latter fragment is that it has a concave grinding surface about 3.5 cm thick, with low outflaring walls (fig. 6*n, p, q*, Josselin de Jong, pp. 102, 132).

The grinding stone is of fine sandstone and shows evidences of long use (fig. 6*c, d*). The gouge is of black stone 4.5 cm long, tapering from the top, broken portion, to a narrow cutting edge at the bottom. It is flat and somewhat rough on the under surface, while the upper side is roughly triangular in section and highly polished all over (fig. 6*k, l, m*). This specimen corresponds to those shown by Josselin de Jong (pl. xxiv, 29-38).

One petaloid celt is similar to those described and pictured by Harrington⁴¹ and Fewkes⁴² for Cuba, Porto Rico and Eastern Mexico,⁴³ Roth⁴⁴ for

⁴¹ Harrington, vol. 2, pl. LXXVII, *a-c*, pl. CVIII.

⁴² Fewkes, 1922, fig. 67.

⁴³ Fewkes, 1907*b*, pl. XI, XII.

⁴⁴ Roth, pl. 3.

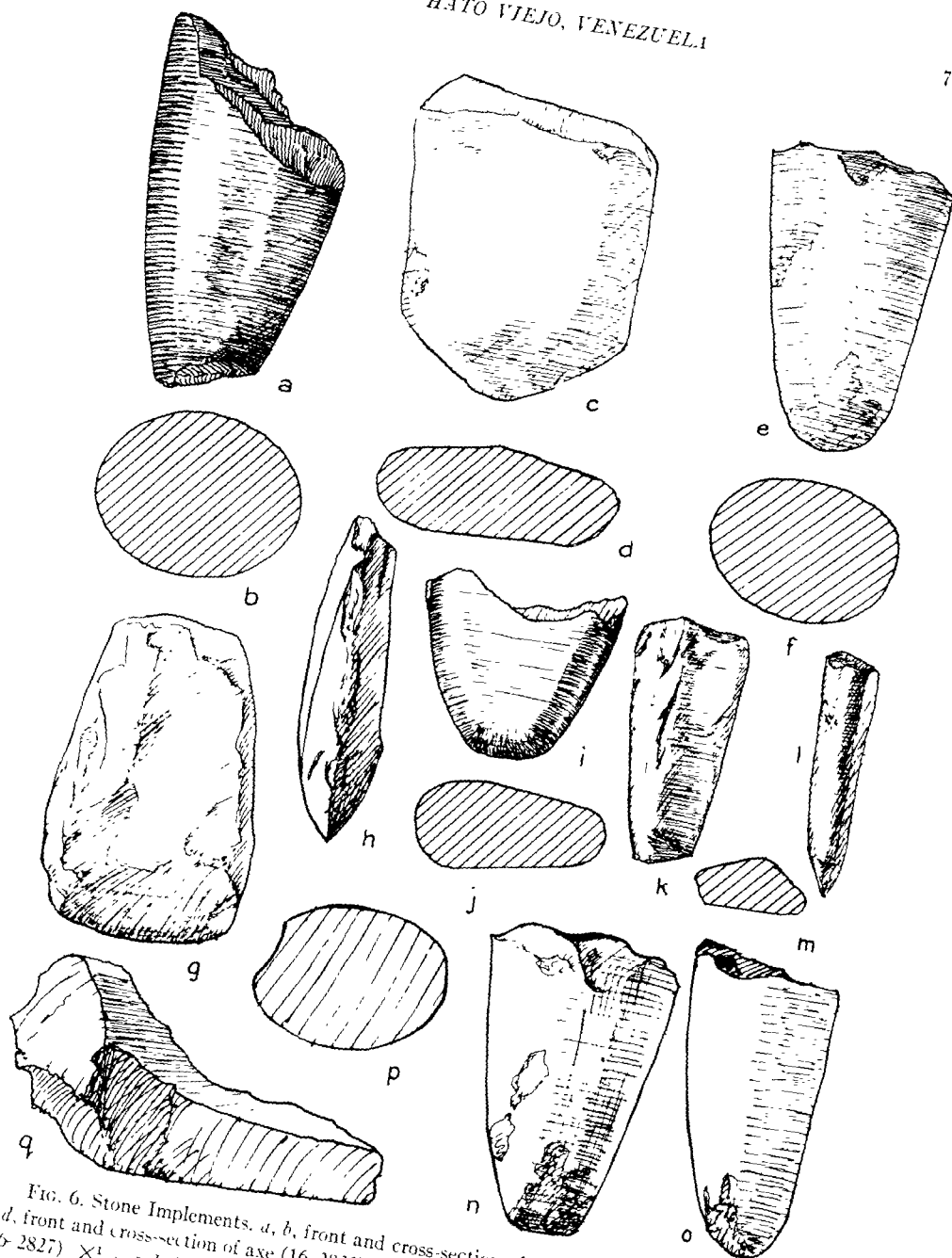


FIG. 6. Stone Implements. *a, b*, front and cross-section of petaloid celt (16-2827) · \times^1 ; *c, d*, front and cross-section of axe (16-2833) · \times^1 ; *e, f*, front and cross-section view of pestle (16-2829) · \times^1 ; *g, h*, front and side view of axe (16-2837) · \times^1 ; *i, j*, front and cross-section of axe (16-2829) · \times^1 ; *k, l, m*, front side and cross-section view of burin or gouge (16-2832) · \times^1 ; *n, o, p*, front side and cross-section of notched axe (16-2878) · \times^1 ; *q*, side view of metate fragment (16-2850) · \times^1 .



FIG. 7. Stone Implements. *a, b, c*, front side and cross-sections of axe (16-2844). *d*, asphaltic ornament (16-2826); *e, f*, front and side view of axe (16-2840); *g, h, i*, front, side and cross-section of notched axe (16-2845); *j, k, l*, front, side and cross section of stone hammer (16-2841); *m, n, o*, front, side and cross section of axe (16-2843). All drawings are one-half natural size.

Guiana, and Josselin de Jong⁴⁵ for the islands north of Venezuela. Both ends of the specimen are fractured so that its size cannot be estimated. It is ovoid, beautifully tapered and highly polished (fig. 6*a*, *b*).

SUMMARY

The crude ware is plain and modeled. Finer painted wares are generally of better workmanship and more complex design. Plastic modeling is common to all wares of the site except the black-on-red. It consists mainly of realistic and grotesque, anthropomorphic and zoomorphic heads, raised incised nodes, and meandering rolls of clay situated on the rim, neck and upper equatorial zone of the vessels. Luted-on models in the round may serve as decoration, handle, or spout for the pot. Painted design is geometric and rectilinear with some attempt at semi-curvilinear patterns. Parallel lines meeting one another at various angles usually form a panel which roughly encircles the upper half of the outer wall of the vessel.

Design elements are not many; they are handled quite similarly but in different combinations. The encircling band decoration is generally of repeated or alternated identical units, with the open and meander scroll enclosed by geometric parallel lines (figs. 4, 5, 8).

Pottery from Hato Viejo very closely resembles in point of form and ornamentation, ceramics from the islands of Aruba, Curaçao and Bonaire. Similarities to eastern Venezuelan pottery are in plastic modeling on the upper segment of the vessel walls, but not in form or design. The Antillean similarities are greater in modeling, design elements, and position of the painted area. To the west, certain similarities are apparent throughout the Panamanian region and extending into Central America. However, so little work has been done in northern South America that comparison with other localities must await detailed investigations.

Hato Viejo is rich in well-worked stone implements. They show close similarity to those of Aruba, Curacao and Bonaire, as well as to certain objects, such as the petaloid celts, from the Greater Antilles, and Northern South America. All specimens indicate a high degree of skill in stone work.

In point of time no conclusions can be drawn since no stratigraphy has been established. Crude and primitive-looking pots and designs compared with a more advanced type of pottery are assumed to be earlier, but the assumption would have to be supported by corroborative evidence. The cruder ware may be representative of the common cooking-vessels or constitute an archaic survival, while the more complex specialized ware may have only ceremonial and ritual use, so that both wares are conceivably contemporaneous.

⁴⁵ Josselin de Jong, pl. XXII, 32.



FIG. 8. Design Elements. *a, d-i, f, l*, black-on-white (16-2803, 16-2739, 16-2748, 16-2749, 16-2810, 16-2636, 16-2733, 16-2704, 16-2751; *b, c*, maroon-on-cream (16-2692, 16-2747); *j*, incised ware (16-2799). All drawings one-half natural size.

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AN ARCHAEOLOGICAL discovery of considerable interest was recently made by Mr. I. Myhre Hofstad and his sons, of Petersberg, southeastern Alaska. In a cave on a small island about thirty miles south of Petersberg, they discovered three human heads, two of which were mummified and well preserved. The Hofstads were cruising past the island when they noticed a deer caught in a trap. One member of the party was landed to release the animal, and after having done so, he was obliged to cross to the other side of the island in order to board the boat in its lee. In climbing through the woods, he discovered a cave, or rather a crack in the rocks, barely large enough to admit a man's body (pl. 28*a*), about seventy feet above the sea, but invisible from the water. In this cave were two complete boxes, wrapped in matting and corded, and the remains of four more. Two planks, about four feet long, which had apparently been shaped by stone adzes, covered the two complete boxes (pl. 28*a*).

The three most decayed boxes were evidently the oldest, and were in the further end of the crevice. The fourth had decayed except for the lid (pl. 28*c*) which was inlaid with small rounded studs, reported to be of stone. Under the lid were a human skull and lower jaw (pls. 28*a* and *c*), and the remains of the matting in which the box had been wrapped. The rotted fragments of the box showed traces of paint, or rather of stain, through which the grain of the wood was visible. The fifth box, next on the right, was intact (pl. 28*b*). It was wrapped in matting and corded with a double-strand rope of cedar bark. The matting was decayed and fell apart when unwrapped. The box itself was made of red cedar, the sides being formed of a single plank, bent on three corners and sewed at the fourth corner. The top and the bottom were each cut from a single piece of wood, the bottom mortised to fit inside, and the top to fit over the box. The top and bottom are slightly flaring. The sides of the box are somewhat bulging and are covered with elaborate carving, stained red and green. Inside the box, packed in shredded cedar bark, was a human head, well preserved. The hair was long and appeared to have been colored reddish by the cedar shavings. The inside of the skull had been cleaned out, and the head had been smoked, or at least dried. Inside the mouth, wooden sticks had been placed crosswise to hold out the cheeks. The most interesting feature of this head is the labret, made of a long strip of skin or hide, about three quarters of an inch wide, which had been rolled tightly to form a disk two and a half inches in diameter. The labret was set in a long slit in the lower lip, but somewhat to the right side. The presence of this lip ornament shows the



a, Entrance to cave; *b*, carved box and woman's mummified head with labret; *c*, studded lid and skull; *d*, painted box and mummified head.

head to be that of a woman of the upper class. The material of which the labret is made and its slightly lateral position are unusual.

The sixth box (pl. 28*d*), was wrapped in a mat and corded in the same fashion as the other box. The mat was well preserved. It is composed of fine rounded fibers (cedar bark or spruce root?), stained black and tan, and woven with a diagonal weave into three-inch strips; at intervals of a foot is woven a strand of heavier material. The mat is so well made that it can hold water and was undoubtedly intended to keep the contents of the box dry. This box is made like the other, except that the bottom fits inside, the sides are taller, and the top more flaring. The design is painted, not carved, the colors being brown and red and the natural color of the wood. Inside the box was a mummified human head, with long hair, wrapped in a soft woolen cloth, probably made of mountain sheep wool, and packed in cedar bark shavings. This box was evidently the last to be placed in the cave, as the degree of preservation and its position would indicate. Inside the woolen wrappings, next to the head, was a piece of wood about five inches long, shaped like a handle, to one end of which a piece of iron had been lashed, the iron having rusted away (pl. 28*c* on the lid). Under the box were found about two hundred beads, some of them sections of hollow bird bone, the others common glass beads. The head in this box was the best preserved. The skull had been cleaned out inside, but no wooden sticks were found in the mouth.

It is evident that the cave has been used as a storage place over a period of years. Of the first three boxes to be deposited, only fragments remain, and it is impossible to say whether they originally contained heads. The sixth and youngest box was evidently deposited since the Indians came in contact with white men and were able to obtain iron; in other words it must be later than 1750 and belongs probably to the nineteenth century. The other boxes are older, but it is impossible to date them. No other human remains were found in the cave.

The boxes and the matting are typical products of the Northwest Coast Indians. The cache of heads, being found in Tlingit territory, is undoubtedly Tlingit, and though the discovery of such a cache is very unusual, it is not without precedent. When Dixon was in Alaska in 1787, one of his officers found, in a cave near Sitka, a square wooden box, beautifully decorated with small shells, and containing a human head.¹ However, the preservation of human heads does not belong to ordinary Tlingit burial practice. The Tlingit dead, with the exception of slaves and shamans, were burned. Mum-

¹ Albert P. Niblack, *The Coast Indians of Southern Alaska and Northern British Columbia*, USNM-R; 351, Washington, 1890.

mification, such as was practiced by the Aleut and the Eskimo of Kodiak island and Prince William sound, was foreign to the Tlingit. Though the head of a Tlingit warrior, slain in battle, was cut off and placed in a box on poles above the box containing the ashes of his body,² this practice does not explain the finding of human heads in a cave, without any other trace of human remains, especially when one of the heads is that of a woman. It seems more probable that these heads are trophies of war. When I was in Alaska in the summer of 1931, a young Indian woman of Juneau told me that after the massacre of the Wrangell natives by the Kagwantan, or "Wolf People," of Sitka, the victors cut off the heads of the most important persons and carefully preserved them. These heads were displayed on the triumphal return to Sitka and were later redeemed by relatives of the victims. Some of the heads, however, are said to remain to this day in the hands of the Sitka natives. This massacre took place in the last quarter of the nineteenth century, when Dr. Young first came to Alaska, and the formal treaty of peace was signed by the natives of Wrangell and Sitka the day before the United States entered the World War. Krause has also mentioned that the Tlingit used to cut off the heads of their slain enemies, either to throw away, or to save as trophies.³ It is possible that the latest of the three heads found by Mr. Hofstad may be a trophy of the Wrangell massacre; the location of the cave seems to be more in the territory of the Wrangell natives than that of the Sitka Kagwantan, suggesting that if so, this head was one which had been redeemed.

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² Hubert H. Bancroft, *The Native Races of the Pacific States*, I, p. 113.

³ Aurel Krause, *Die Tlingit-Indianer*, p. 250, Jena, 1885.

MAKING CÁNTAROS AT SAN JOSÉ TATEPOSCO, JALISCO, MEXICO

By PAUL TAYLOR

SAN JOSÉ TATEPOSCO is a small village situated in the Municipio of Tlaquepaque, adjacent to Guadalajara. Its population of 441 (1930) consists of persons who are almost entirely of Indian ancestry, with a small admixture of Spanish blood. Tribal origins are unknown, and tribal organization and indigenous language obliterated. The town probably was founded in the late eighteenth century. The traditional occupation, in addition to the usual small-scale farming activities, is the making of pottery. Six products, each in various sizes, are made by the villagers: (1) cántaros, or constricted-mouthed water-jars; (2) ollas, or vessels of round, wide-mouthed type; (3) lebrillos (also called lavamanos), or round bowls which widen from the base to the top, used for washing clothing, bathing, etc.; (4) tecomates, or bowls with globular bodies, constricted at the mouth, so named because of a close resemblance to the lower part of a common type of gourd used as a vessel for storing tortillas, carrying seed when planting, etc.; (5) macetas, or flaring pots for plants, and (6) tinajas, or vessels like ollas but with large handles and tall perpendicular neck. Of the six types of pottery produced in Tateposco, cántaros are by all odds the most important commercially, and practically any day of the year except Sunday, some villagers can be seen actively engaged in their manufacture.¹

Three grades of sub-surface material are used for pottery: (1) A heavy clay, very hard when dry, and sticky when wet, is found in two colors of

¹ A very few braceros, or small stoves, are also made. In the making of all of these products, molds are employed to aid in shaping the clay. The use of molds, in contrast to the coiling method employed by the Pueblo Indians of the American Southwest, suggested the present study of the method of making cántaros. The data were obtained in November, 1931, and July, 1932, principally from Paulino and Victorio Ramos, who, together with their families, generously explained in detail the steps of pottery-making which they were performing. The time required for the various operations, as given here, is usually the result of several observations of the same process; for the longer processes of milling and firing which were witnessed carefully but once, the single observation is the basis of the time given. Pottery-making is a family operation, the wives usually working continuously and the children assisting occasionally. A single vessel is not worked steadily from raw material to completed product, but a batch of raw material sufficient to make a number of vessels is worked up, and, though there is no absolutely uniform program of work, each process is usually completed on a number of vessels before the next one is started. The time elapsing between processes is regulated by the amount of drying the material requires, or can stand, to be ready for the next operation. Paulino Ramos and his wife can mold three dozen cántaros in a day, which in 1932 were sold at from five to eight centavos each. Of course this rate of production is not maintained day after day, nor is there any attempt to maintain it.

equal quality for making pottery. That which is taken from the hillside north and northwest of Tateposco, called *tierra colorada*, is very ruddy, with red and brown mottling. Its equivalent, taken from the pasture called La Bolsa, southwest of Tateposco (south of Los Puestos), has but the faintest tinge of brown, mottled with small black patches. Curiously, this too is called *tierra colorada* or *bermeja* (reddish), probably because of its equivalence with the clay which is truly ruddy. Both clays are also called *barro duro* (hard clay) or *tierra tiesa* (hard or firm earth). (2) A softer, smoother earth known as *tierra blanda* (smooth earth), which is very dark when wet, and gray when dry, is mixed with the *tierra tiesa* in equal proportions as a temper to prevent the cracking which would result from the use of the latter alone. (3) A clay which is *revuelta*, or a mixture of a quality between the *tierra tiesa* and *tierra blanda*, also is found in La Bolsa, but in different veins. In appearance it resembles the *tierra blanda*, becoming gray when dry, but it is mottled, with dark patches. When mixed with *tierra tiesa* the proportions are three of *tierra revuelta* to one of *tierra tiesa*.

The *tierra tiesa* obtained from the pasture is usually taken from the sides of a small arroyo which traverses it, exposing strata of the desired materials a yard or more in thickness. The clay is loosened with a pick, and each lump inspected for its quality, presence of sand, etc., before it is tossed into a shallow basket (*chiquihuite*). The excavations become veritable mines; one was seen with as many as seven drifts, some of them penetrating as much as fifteen feet beyond the face of the bank. The roof was supported by unmined pillars. Loss of life from cave-ins is by no means unknown. The burrowings on the hillside are shallow, for the clay lies close to the surface. Transportation of the clay to town is usually in sacks on the backs of burros, although some men carry it on their own backs.

Before cleaning and milling, the clay is thoroughly dried in the sun; it is stored inside the house during the rainy season, and outside during the dry season. When ready, it is mixed in the proper proportions on a clean-swept spot of hard ground out-of-doors, and the pile levelled in circular form. The mixture is then pulverized by repeated blows with a long club (*majador* or *golpeador*) swung overhead. The pounding of six baskets of material occupied approximately forty minutes. The pulverized clay is then winnowed. The sieve (*cernidor*) used for this purpose is made of a stiff grass (*popote* or *sacamecate*), the stalks of which are bound together parallel, with small intervals between. The size of the sieve is about 30" by 18", or it may be larger according to individual preference. Some potters make their own sieves, others buy them. The method of sifting is to carry the clay with the right hand up against the sieve held inclined with the left, allowing the

*a**b**c**d**e**f*

a, Mining clay from vein in arroyo; *b*, pulverizing clay with golpeador (moliendo); *c*, sifting clay (cerniendo); *d*, kneading clay, making textales; *e*, dusting textual to prevent adhesion when molding, *f*, spreading textual over mold with talache.



a



b



c



d



e



f

a, Flattening bottom; *b*, shaping shoulder with paddle; *c*, inspecting; *d*, shaping mouth; *e*, grinding mineral color (barniz); *f*, pouring barniz to color thinly.

fine powder to fall through on cleaned ground. The lumps which do not pass through are tossed aside into another pile; these are to be mixed with the next batch of clay to be pounded, and in recognition of the fact that the harder clay pulverizes less readily, a lower proportion of that material is added when leavings are used than when a fresh mixture is made. Bits of grass or other foreign materials which may have fallen through the sieve are picked out by hand. If there is apprehension of rain, the powdered clay is carried at once into the house; if not, and work is to be continued without interruption, it is left in place, and drawn upon as needed.

The pulverized clay is prepared for molding by kneading. A batch is separated from the main pile, spread on smooth hard ground, a "basin" formed in the center to receive water which is poured from cántaros or ollas, and the material is then kneaded with both hands in the same manner as bread dough, or masa from which tortillas are made. The mixture, which at a single time is made usually about the size of a double loaf of baked bread, is called macho (an apparently utterly irrelevant term for which no reason could be assigned except that "our grandfathers called it that"). The large macho which comprises the entire quantity of powdered clay mixed with water at one time is soon split into two pieces for more thorough kneading, after which both are put aside to await another processing. The kneading of the macho occupies approximately eleven minutes. Cántaros which have cracked or broken during sun-drying are wetted and re-kneaded without addition of other materials.

In immediate preparation for molding, a dozen textales are made from the macho at a time. If more are made, the material becomes too hard by the time the last textales are used. On a large, smooth, flat stone, a little clay dust is placed to prevent adhesion of the wet clay, and spread evenly with the aid of a small rock having a smooth, flat surface. A piece of macho is broken off, its size dependent upon the size of the cántaro to be made, and with the occasional addition of a little water with the hand, is re-kneaded. When the material is thoroughly homogeneous, it is pounded with the fist to flatten it, and finally patted with the palms of the hand into the form of a textual, or pie-shaped clay which, for the next largest, and most generally sold, size of cántaro (cuartillo) is about 14 inches in diameter and an inch thick. The time required for making a single textual from a piece of macho already broken to size is approximately a minute and a quarter; sometimes the entire macho is re-worked, then broken apart, and a textual made, a process which occupies almost two minutes.

The cántaro is to be formed over a mold (molde) which is simply another cántaro which has not been flattened on the bottom, but left rounded so the

clay will not adhere to it. Usually the molds are left uncolored, or they are colored only in part and bear the owner's initials for purposes of identification.

With a stack of textales ready, the process of molding starts. A textual is picked up, laid on the palm of the left hand, dusted on one side with powdered clay from an olla, and placed, dusted side down to prevent adhesion, on top of the mold. Immediately the clay is pressed down over the upper third of the mold, by patting with both hands, the potter walking round the mold as the patting proceeds. The potter thus revolves himself instead of the clay, as is done when a wheel is used. The edge of the clay is then felt, to ascertain that it possesses the proper thickness for further shaping. While patting, the potter usually makes five or six revolutions, backing counter-clockwise round the mold, with from half a revolution to a revolution clockwise as the finishing pats are given.

The shaping continues with a *talache*, or tool of fired clay with a round, flat base about four inches in diameter, a tapering, curling peak to fit the hand, and from one to three small shallow holes under the curl of the peak into which fingers are inserted to give sureness to the grasp and to retain small quantities of water which when released moisten the *talache*. (The term *talache* is also applied to the pick with which the clay is mined. At San Ignacio Cerro Gordo, Arandas, no *talache* is used for shaping *cántaros*, but instead, the wooden paddle. In some places the upper part of the *cántaro* is made over a separate mold, and later joined to the lower portion.) Wetting the tool, the Tateposco potter moves swiftly backwards around the mold, tapping rapidly a double line of circles around the clay, a tap above followed instantly by one about an inch below. This procedure continues, the potter always working from top to bottom to spread the clay evenly over the mold. As the process approaches completion, the tapping, which by its suction counteracts any tendency to stick to the mold, is alternated with a smoothing stroke with wetted *talache* and the hand. This serves not only to smooth the surface, but also to close pores in the clay. Any cracks which appear are closed with the application of a pinch of clay taken from the rim. Approximately 13 revolutions about the mold, in identical manner as before, are made during this process. When the clay, now in the form of a flaring bell, is spread to suitable thinness, the mold and clay are together lifted and set upon a smaller mold, which supports them off the ground, to dry. The entire operation from the dusting of the textual until the mold is picked up occupies approximately three and one-quarter minutes.

After from five to ten minutes, during which work on other *cántaros* proceeds, the clay can be lifted by itself from the mold and set, flaring edges

*a**b**c**d**e**f*

a, Wiping with cloth to thicken and smooth color, *b*, carrying sun-dried cantaros to kiln; *c*, loading furnace; *d*, firing; *e*, going to market (for picture of use of burros, see Univ. Calif. Chronicle, April 1932, pl. 1, opp. p. 126); *f*, enclosure typical of potters' homes.

down, upon the ground. If left on the mold too long, cracks may appear. In another fifteen minutes to half an hour, the top of the clay is tapped lightly with a wooden paddle to make the bottom flat, and ten or fifteen minutes later the clay is carried into the house to dry further in shade before the next process is undertaken.

After the bell-shaped clay has set for about ten or fifteen minutes more, it is inverted and set in the open mouth of a pottery stand, or *yagual*, made especially to elevate the clay for more convenient working. The *yagual* is simply a large *cántaro* made with large circular mouths of different sizes at each end. The mouths serve equally as a base, or to receive *cántaros* in process of manufacture. First, a fringe of one-half to three-quarters of an inch of the flaring clay is pinched off by the thumb and index finger of both hands, and the pieces dropped into the bottom of the partly formed *cántaro*. This fringe is thicker, and dries harder, than the rest, and is likely to crack; after it is broken off, the fragments are pressed into a ball, dipped in water, and set aside. The potter then takes a small wooden paddle (*palito*) made of a piece of light board, dips it in water, and starts to back round the *cántaro* as before, lightly tapping the flaring clay inward with a glancing stroke against the lower part of the open palm of the left hand which serves as an anvil. Approximately nine revolutions are made while rapid tapping continues, first at the top of the form, then lower down and working upwards several times until the shoulder of the *cántaro* is shaped properly inwards, leaving a circular opening slightly larger than the finished mouth. The tapping is followed with rapid smoothing of the entire surface with a wetted corncob and wet hand, using both vertical and horizontal strokes. In this process from seven to nine revolutions are made, during the last of which the entire surface is usually rubbed with both hands wetted, the open palms moving rapidly back and forth over the circumference. This serves to give the *cántaro* its final shaping, and to close pores. Any defects are noted, plugged with soft clay, and smoothed. The process, from tapping to final smoothing, occupies generally from four to five and one-half minutes, but is subject to considerable variation in duration and in number of revolutions.

The shaped *cántaro* is then lifted up in the left hand, turned about, and subjected to a final brief inspection as the backs of the fingers of the right hand are passed rapidly over its surface, closing with the finger nails any pores which may still be open.

After a period of some minutes which permits the clay to set, and during which the process just described is repeated on other *cántaros*, the final operation of making the neck and mouth ensues. The ball of clay pinched ear-

her from the fringe of the cántaro is kneaded quickly in the hands, and formed into a "doughnut" about 4" by 1", with a large hole in the center. On one side toward the center, a flange is formed to unite the piece more easily with the shoulder. This is done by pinching the "doughnut" which forms the neck to the shell of the cántaro, the potter moving around the vessel approximately five times in the process. Then, with a strip of pliant pigskin, about 7" by 1-1 3" (of variable size), dipped in water and held in both hands, fingers inside and thumbs outside, the neck and mouth are given their characteristic curves, and the union with the shoulder completed. About seven backward revolutions are made. The time from the moment of picking up the ball of clay to completion of the neck and mouth is approximately one and one-half minutes. For a final inspection the finished cántaro is again held up in the left hand, revolved, run over gently with the backs of the finger nails of the right hand, and set down to dry.

On the day when the cántaros are made, and the day following, they are left to dry in places protected from the strong sun and wind. The next day they are dried in the sun, and if turned frequently so that they dry thoroughly, they are ready for firing by the end of the day. Just prior to loading the furnace, the cántaros are painted. A red mineral soil obtained from the nearby Potrero San Juan, which can be dissolved in water or held in suspension, furnishes the color (barniz). The mineral is first powdered by milling on the smooth flat stone used for making textales, and with the same rock used earlier for spreading the powdered clay over the stone. Then it is mixed with water and kneaded, after which it is placed in a large lavamano and stirred round with the hand, rubbing it against the side of the bowl until dissolved. The cántaro is then first given a bath of color by having a cupful of the thinner paint, drawn off from the top, poured over it as it is revolved in the hand. Next, it is rubbed with a rag dipped in the better, residual solution, which distributes the color evenly and thickly. Only the outside is colored, not even the entire visible portion of the mouth. The reasons given for using color were to "add lustre and valor (value)." Painting of names or designs with brushes has been almost entirely abandoned in Tateposco. My informants knew that their fathers had painted cántaros in this manner, and one old man has continued to paint designs with the red barniz, but the practice belongs to the past; my informants themselves had never done it—"no valor was added, and people did not ask for it."

The furnace (horno) is characteristically cylindrical, with a height of about six and one-half feet, and an outside diameter of about five feet. The diameter may be enlarged considerably to increase capacity, but the height is not varied. The foundation of the furnace is a ring of large stones, above

which adobe is used. Two opposing openings about 10" by 14" are left in the base for insertion of fuel. Arches of fired brick (*ladrillos*) or of adobe, with spaces between, provide support for the cántaros and permit passage of heat and flame.

To load a furnace of the size described, which holds from seven to eight dozen large cántaros (*cuartillos*), occupies approximately an hour. One man within the furnace places the vessels in position, usually with mouth up or down, to conserve shape better during firing, but with conservation of space the controlling factor in determining position. Others, including women and children, aid in passing the cántaros up to him. When filled, the furnace is capped with large pieces of broken cántaros to retain heat.

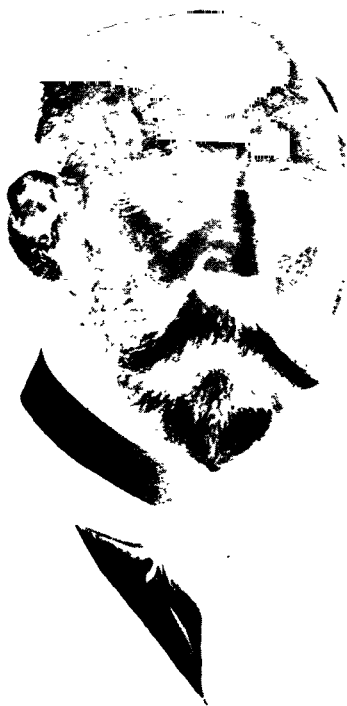
Two burro loads (*cargas*) of very light brush and dried, heavy weeds, are used. A quick hot flame is desired, not the glowing, retained heat from dry manure fuel which is used in some neighboring villages which specialize in small pottery objects. The fire is fed in from both openings in the furnace, slowly at first to avoid cracking the pottery. Bunches of brush are ignited at the end, and slowly pushed inside. When the fire is well under way, the burning fuel inside the furnace is repeatedly raised and lowered by long sticks, to make it burn fiercely and high. Heavy black smoke pours up through the top, covering everything with thick black soot. When the soot on the cap of broken pottery whitens, it is taken as an indication that the firing has been successfully completed. As a final touch, a couple of bundles of grasses are thrown on the cap, and ignite at once; their ash is intended to close some of the larger openings, and thus distribute the heat and retain it longer. The time of firing is from an hour to an hour and a quarter, depending partly upon the fineness of the fuel used.

The pottery is removed from the furnace when cold, usually the day following firing. The upper cántaros come out a uniform brick-red color; the lower ones are blackened in spots. Some which are insufficiently fired are set aside to be re-fired when the furnace is next charged.

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WILLIAM HENRY HOLMES died at Royal Oak, Michigan, on April 20, 1933, at the age of 86 years. Born near Cadiz, Ohio, December 1, 1846, son of Joseph and Mary Heberling Holmes, his education was cared for according to the best local lines of the period with a view to teaching as a career. Along with his education he fancied drawing, and early developed a precocity of line that was to influence his whole life. The urge for art expression in due course pushed him into the world of science. As a visitor to the Smithsonian the youth's talent was recognized and he found employment and association of scientific men. With the idea of an art career yet in mind he studied art in Germany and visited the great museums of Europe in 1879-80, and many early reports show the quality of his illustrations. This talent drew him into the work of the U. S. Geological Survey, and in 1872 he took the field as an artist under F. V. Hayden. Interesting himself deeply in geology he became assistant geologist in 1874. The vast landscapes of the Far West lying bare to the sun were traced by his pencil, and there remain from this period hundreds of drawings showing physiographic features of which those of the Grand Canyon are classics in geology. Assigned to the survey of the San Juan region of Colorado about 1875, this fortunate event brought together the man and the subject that was largely to dominate his scientific life. The cliff dwellings and pueblos of this region were fallow to his researches after a millennium of solitude in the deep canyons and on the high mesas. Here we find him writing the first report on the ancient remains of the San Juan results of his surveys and clambering in the dusty, smoke-blackened rooms of the ancient people.

During Mr. Holmes' service in the U. S. Geological Survey from 1872 to 1889 he found time to keep up his interest in the works of man initiated, as was said, by his surveys in the region of the Cliff Dwellers. Thus we find traces of his artistic skill in the first volume of the Report of the Bureau of American Ethnology in 1879-80 and an important paper on the art in shell in the second report, showing that he was keenly studying the stream of accessions coming into the Smithsonian from the various explorations conducted by the Government. In following reports are other papers of his, especially in the Fourth, where three papers of his appear. They show that at this period he was deeply interested in aboriginal decorative art. In 1882, while still with the Survey, he was appointed Curator of Aboriginal Ceramics in the U. S. National Museum. In 1889 he was definitely transferred to the Bureau of American Ethnology of the Smithsonian.



William Henry Holmes

Among the disturbing dreams of the infant Anthropology was the correlation of European and American archaeology. Chipped implements resembling European types were labelled in museums American paleolithic implements. Dr. Holmes' knowledge of technique came in handy at this time. He found that none of the so-called implements showed wear by use or of specialization of form fitting them for any ordinary use. He carried on work in numerous Indian village sites and quarries where implements had been made. This study demonstrated that all these chipped stones labelled Paleoliths were only the rejects of the native implement makers thrown away on the workshops because of flaws in the stone or shapes not suitable for making finished implements. Those who believed in the great antiquity of man in America were thus deprived of their best argument, and a long and bitter fight ensued. Dr. Holmes scored a complete victory, however, and archaeologists now agree that there are no American paleolithic implements.

Dr. Holmes' interest in the antiquity of man was paramount, and he led the opposition to the previously generally accepted belief in the existence of a glacial age man in America. His scientific interests became concentrated in the field of American archaeology. It is in this field that he achieved most fame. He comprehended the whole American field, carrying on explorations in the various areas and studying the collections brought in by other workers. Twice did Dr. Holmes receive concrete recognition of his major work in archaeology. In 1898 he was awarded the Loubat prize of \$1,000 by Columbia University for the most important work in American archaeology in the three year period, also a prize of \$400 for the most outstanding publication in this field for the five year period ending with 1920.

Interrupting his work in the Smithsonian, Dr. Holmes from 1894 to 1897 served as Head Curator of Anthropology in the Field Museum, Chicago, and Professor of Anthropic Geology in the University of Chicago. During this assignment he accompanied Mr. Allison Armour on an exploration to Yucatan. Here he gathered materials for a volume on the ancient ruins of Maya civilization in Yucatan and Central America, with numerous illustrations from his pen of the remarkable ruined buildings and works of sculpture and with maps and plans of the cities.

Returning to the Smithsonian in 1897, Dr. Holmes accepted the Head Curatorship of Anthropology in the U. S. National Museum, this department covering ethnology, archaeology, technology, and history. This service was interrupted in 1902, when he succeeded Major J. W. Powell as Chief of the Bureau of American Ethnology. He applied himself assiduously to the work of the Bureau and during his intendency brought out the im-

portant volumes of the Handbook of the American Indians. He continued as chief till 1909, when he resigned to devote himself entirely to Museum work. During the subsequent years he supervised the classification and installation of the great collections of American archaeology and the establishment of the Division of Physical Anthropology with Dr. Ales Hrdlicka as Curator. In museum science Dr. Holmes was preeminent. His impeccable good taste and his mastery of composition made for outstanding results in the anthropological exhibits of the National Museum. Especially this is seen in the racial groups, which have remained the best of their class.

Toward the close of his long life Dr. Holmes returned to his first affiliations with art. The art materials aggregating to the Smithsonian were always subject to his care. In 1920 he was made Director of the newly established National Gallery of Art, then having become by additions of considerable importance. This work he carried on actively for the rest of his life, establishing the foundation of the National Gallery eventually to be housed by the Government.

Dr. Holmes received numerous honors both here and abroad. He was a National Academician, member and former president of the Washington Academy of Sciences, a charter member of the Cosmos Club and past president, member of the Archaeological Institute of Great Britain and Ireland, and of the National Institute of Fine Arts, of which he was president in 1909. His name is indelibly fixed in the Geography of the West, two mountains having been named for him. He was a noted mountain climber, having been first to ascend several high peaks in the Rockies, including the Mount of the Holy Cross. Dr. Holmes was always spare in physique and seemingly delicate, but his agility was remarkable. In mountain climbing no one could keep up with him.

On his seventieth birthday his friends and admirers presented him with a unique publication of 500 pages of essays titled the Holmes Anniversary Volume. On his eightieth he was given a bound volume of letters from his fellow scientists in various parts of the world. Dr. Holmes was slender, erect, with brown eyes and pointed beard. He was never too busy to be polite, but he was always busy. His thoroughness stands out in high relief. He had a broad foundation in general culture. He always said that "the broader your foundation, the better your results will be." Another typical expression was "Make it tell the story." In 1883 he was married to Katherine Osgood, who bore him two sons.

To sum up, Dr. Holmes was an eminent man of science in whom the various phases of art and science were fused to a degree seldom given in one

man. Art, science, and technic were the agencies he applied to the elucidation of his favorite science, anthropology. His passion for pure art is seen in his paintings, which are poetical transcriptions of nature, not only portraying nature but revealing his inmost soul.

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BOOK REVIEWS

METHODS AND PRINCIPLES

The Method and Theory of Ethnology: An Essay in Criticism. PAUL RADIN. (xiii, 278 pp. \$2.50. New York: McGraw-Hill, 1933.)

This is a stimulating and refreshing book. It examines with acumen and insight the presuppositions, methods, and tenets of the principal workers and schools of cultural anthropology—including Radin himself—since Tylor. Frazer's is the only name of eminence that escapes with bare mention. The work is not a history of ethnology but a skilful critical analysis. It therefore makes certain presuppositions of its own. Chief of these are that ethnology is culture history; that therefore it particularizes; that its concern is not with processes as such; that it is distorted and rendered sterile by attempting to be scientific or quantitative. Whether or not one accepts this attitude, Radin's analyses are fine and spontaneous. He points out all the sins of ethnology, current and former, and of inadequacy as well as of commission and omission. He points out equally in detail the weaknesses and contradictions of individual ethnologists. All this is done not without bias, obviously, but with sincerity, candor, and a sort of higher impersonality. As one of those who has pieces of his professional hide stripped from him time and again, in the book, the reviewer testifies to the flaying having been done without a trace of rancor. Radin has simply spoken out in meeting and recited the list of our deficiencies, individually and collectively; and on the whole with astonishing fairness. And his judgments are as keen as they are just—granted his premises.

An evaluation of Radin's own published work is perhaps in place here in order to make clearer his premises. It is evident that he has respect for the factual material of culture to an unusual degree. Above all, he prizes documents; and has a consummate flair for securing illuminating ones from informants. These documents he does not weave into an organized picture of a culture; for he thoroughly dislikes formal organization, order, or generalization, whether descriptive, narrative, or rational. His *Winnebago* is not a descriptive monograph, except in outer form, but a series of native documents with critical exegesis as to their relations, especially the relations of their individual authors to their culture. This seems Radin's chief interest in ethnology: how different individuals react and adjust themselves to a culture. The scheme of culture as such he might almost be said to be hostile to. He mentions its patterns not so much for their own significance, but in order to show how individuals violate, transmute, and alter them. Where the patterns per se are discussed, as they must be in linguistic work, it is chiefly to infer how they must have changed out of other patterns. Hence the curious procedure of demonstrating, before the present structure of the Wappo language has been fully described, what its antecedent structure must have been—a procedure which can be paralleled in chapter after chapter of *Winnebago*, or in the *History of the Mexicans*—and done apparently with genuine insights. All this is said not in stricture, for Radin's work always has value, but to bring out that his values are not those which most of the

rest of us aim at. He seems to be fundamentally neither a descriptive ethnologist nor a narrative historian nor a culture historian in the strict sense, but a specialist extremely able in interpreting documents that bear on the unstable aspects of culture and on the psychology of individuals wrestling with their cultures. All of which is highly worth doing; and an intelligent review of the endeavors of ethnology is as illuminating and helpful from this special angle as from any other.

We shall all read Radin's book with interest. We can read it with profit. And it is written with felicity and charm.

A. L. KROEBER

The Geographic Factor: Its Rôle in Life and Civilization. RAY H. WHITBECK and OLIVE J. THOMAS. (The Century Earth Science Series, Kirtley F. Mather, editor. 422 pp., ill. New York: The Century Company, 1932.)

A little more than twenty years ago the environmentalist dogma was still sufficiently vigorous to produce a work of the scholarly and literary quality of Miss Semple's *Influences of Geographic Environment*. Today, if the work under scrutiny here may be taken as representative, the dogma is indeed in a bad way. The defects of the book inhere both in ideologic basis and in execution. The authors disclaim the bald assertion of the dominance of physical surroundings in human affairs; in theoretic passages, they characterize these surroundings as permissive rather than compulsive. But despite the disclaimer they do not succeed in eliminating all too close a resemblance to the writings of the traditional environmentalists. The reader is regaled with the dreary catalog of examples of "influence" already familiar in Ritter's day, varied slightly by the inclusion of a few modern instances, such as "the revolutionary influence of coal" and "the international importance of the location of petroleum fields."

No effort is evident anywhere in the work to attain an objective viewpoint; the attitude of the authors toward nature is precisely on a level with such expressions as this of Isidore of Seville's exultant seventh-century anthropocentrism:

Quid enim mirabilis aquis in caelo stantibus? . . . Effusae . . . arbores, frutices herbasque produnt, sordes detergant, peccata ablunt. . . .

As for culture, they are consistently faithful to the provincialism expressed in their tribute to

the sort of civilization into which we are born and which we account to be the best because it is ours (p. 182).

The framework of their exposition is given by the long obsolete "culture stages." The word "progress"—fully loaded with late nineteenth-century values—is their key to the elucidation of history, which culminates for them in the concept of American society held by the prophets of the new economic era in 1928 and early 1929.

Forthright assertion of the environmentalist position permits a logical structure in composition. But when the environmental term is modified by a variable coeffi-

cient of culture stage and by an equally variable exponent of time, as our authors modify it in order to attain at least an approximation to facts, its evaluation can yield only an amorphous, episodic discourse. The consequences of the philosophic inadequacy of the authors' viewpoint are aggravated by their timidity: they apparently fear to make even obvious and familiar statements on their own authority, but instead uncritically and unskillfully string quotation on quotation, taken in most cases from derivative sources.

The reviewer has long been convinced that environmentalism is a means for the exaltation of the group to which the adherent of the dogma belongs, precisely as is the racial fallacy. The argument is only slightly indirect, in that the putative superiority of the group is ascribed to the stimulation of the environment in which it is a home: witness Huntington's thesis of the relation between civilization and climate. The present work, which without Huntington would lose one of its strongest props, tends to confirm the conviction, but also seems to be an encouraging sign that the dogma is being crowded into ever less intellectually respectable corners.

JOHN LEIGHLY

AFRICA

The Tanala, A Hill Tribe of Madagascar. RALPH LINTON. (Field Museum of Natural History Anthropological Series Vol. XXII. 334 pp., 35 text figures. Chicago, 1933.)

This volume is the first of a series which will present the results of an expedition to Madagascar, undertaken in behalf of Field Museum of Natural History. The Museum has long been interested in Malayan ethnology, and the reported extension of Malayan peoples into this island off the African coast makes this a field of special importance.

The leader of the expedition and author of this volume was Dr. Ralph Linton, for many years a research worker in Polynesia. Dr. Linton made a wide survey of the island and an intensive study of several of the more important tribes.

In this volume he presents the life of the Tanala, probably the most archaic group of the island. The name means "People of the Forest", and under it are grouped people living in a definite territory, regardless of their origins or political affiliations. There is nothing approaching a true tribal organization, and there is considerable diversity in all aspects of their lives, yet there is enough of unity to justify a general description under this name.

Individual families are grouped in lineages—groups of relatives who claim descent from a single male ancestor. Such a unit occupies part of a village and usually holds its lands in common. Strong lineages may eventually break up to form new lineages, while weaker ones may be absorbed into the stronger. By imperceptible degrees the lineage becomes a gens, and this in turn may become strong enough to justify the term "tribe."

On the other hand there may be several gentes in a tribe, and a gens which

moves may eventually become part of another tribe. Apparently membership is determined primarily by the length of residence in the territory.

The lineage may be considered the direct outgrowth of the family. Sons remain near the father and are subject to his control during his lifetime. He is usually succeeded by the eldest son, and he in turn by his first-born. But economic disputes and jealousies will probably cause a split-up in the third or fourth generation. Members of a lineage live together in a separate ward of the village and have many duties and interests in common.

The village has several of these wards and is a fairly permanent unit. It has a village charm, village tombs, stones commemorating the dead, and other interests in common.

In theory all members of a gens have a common male ancestor; in practice, however, descent in the female line may also give gens membership, as in the case of an illegitimate child, descendants of inter-gens marriages which have been matrilineal, children of slave men and free women, absorption of a gens which has lost its band through conquest. Apparently residence is exceedingly important in determining gens membership.

The gens may vary in size from one to fifty villages all under the domination of a single chief. This is the largest native unit, but in recent times ideas of state and rank have been introduced from the outside.

The volume gives a very full picture of the life cycle of the individual and of the village as a whole. In several chapters we are given a view of the economic life, of warfare, of art and amusements. It is a full and satisfying account of a going culture.

The student of Malayan life recognizes many similarities, as for example the preparation of the rice fields, the construction of the granaries, types of utensils, methods of weaving, the use of the Malayan forge, types of fish traps, fish poisoning, use of the blow-gun and fire-saw, the method of delivery at child birth, the roasting of the mother, and many other details. On the other hand, he is surprised at the apparent lack of ceremonials connected with the rice culture, the absence of spirit houses in fields and villages, the weak development of magic, the striking differences in dress. Social organization likewise varies sharply from most Malayan groups, and the folklore seems quite foreign.

The reader has the feeling that the Tanala have a background of simple Malayan culture. However the separation must have taken place in times long remote. There is little to indicate that they have been drawn from any of the more advanced peoples of the Dutch Indies or British Malaya, as was formerly supposed.

The study will be welcomed by all students of primitive cultures, and particularly by those interested in the possible interaction of Malayan and African cultures, both in Madagascar and on the east coast of the continent.

A final chapter giving the author's conclusions would have been most welcome, but doubtless this is reserved for a later volume.

FAY-COOPER COLE

RECENT CONTRIBUTIONS TO THE ETHNOLOGY OF THE UPPER VOLTA
AND THE IVORY COAST

Les Tribus du Rameau Lobi. H. LABOURET. (Vol. XV, Travaux et Memoires de l'Institut d'Ethnologie, 452 pp. 125 francs, Paris, 1931.)

Religion, Mœurs et Coutumes des Agnis de la Côte-D'Ivoire. L. TAUXIER. (254 pp. 75 francs, Paris, 1932.)

Djenné une Cité Soudanaise. C. MONTEIL. (301 pp. 60 francs, Paris, 1932.)

Each of these writers makes his contribution to the ethnology of French West Africa after long experience of administrative work among native tribes. H. Labouret states that his monograph on the Lobi and kindred tribes is the result of eleven years of personal inquiry, conducted for the main part directly in the native languages. Since the work describes the inhabitants of the Haute Volta the information is particularly valuable for comparative study with R. S. Rattray's Tribes of the Ashanti Hinterland. Moreover, Tauxier, in describing the culture of the Agnis, has aided the ethnologist in ignoring political boundaries in order to appreciate the homogeneities of culture existing in French and British territories, which are separated by a political demarcation dividing Ashanti from the Ivory Coast.

H. Labouret lays a foundation for his ethnological study by considering the physical features of the Upper Volta country, and in doing so he points out the influence of the river in establishing and perpetuating many local cults, including fertility rites associated with inundation and welfare of crops. In his general survey the author notes the presence of stone ruins, which, like similar structures found between Gambia and Nigeria, are of unknown origin; neither is a chronological sequence established.

A description of the inhabitants of the Upper Volta region, some of whom use the penis sheath and leaves, recalls sartorial customs which may be observed among the Angas and other tribes of the Bauchi plateau in eastern Nigeria. In physical appearance the Lobi are said to be like the Konkomba.

Demographic study, though brief, is welcome, since such observations are scanty in relation to the population of Africa as a whole. H. Labouret considers 457 conceptions, from which he makes a deduction of 87 cases of miscarriage and still-born infants. The estimate of 8 per cent mortality during the two first years of childhood is almost incredibly low. The investigator concludes that 45 per cent of his sample died in the age period forty to fifty years.

In Book II, which is devoted to technique, industries, and sciences, the author rightly stresses the ritual element, especially in the working of iron and washing for alluvial gold. Outline sketches of tools greatly aid the technological details, and the account of strophanthus as an arrow poison is useful, for the author has done justice to the botanical and ritualistic factors.

Under the heading "Industries de Consommation" the preparations of grains, meat, fish and salt are described. Here there appears to be a reversal of the logical order of presentation, for, after describing the use of food products and methods

of cooking, information is given with regard to food gathering, hunting, fishing, cattle breeding and apiculture. The more natural arrangement would have been, first a description of the foods themselves and the methods of acquiring them, then the account of culinary operations.

The spiritual side of agrarian activities is emphasized in an account of the way in which heads of families consult ancestral spirits, and sacrifice to them before sowing grain. In addition to this there is offering of the first flour at the tomb of a father, or on an altar consecrated to him.

Book II is concluded with an account of medical lore, astronomical knowledge, time divisions, and counting, and in the following book an account is given of games, music, dancing, singing, plastic art and personal ornament.

The fourth book, *La Société*, examines governmental structure by working downward from the tribe and the clan to the family. A study of death and funeral rites concludes this section, and although it might be argued that beliefs connected with death and burial would be more effectively dealt with under "religion," inclusion of these data under a study of society enables the author to point out the connection between societal structure, kinship, and obligations connected with obsequies.

Preliminary observation indicates little social cohesion, but further investigation shows that individuals, far from being independent, are bound closely by mutual obligations. Inasmuch as the Lobi form a sedentary group speaking a common language they may be spoken of as a tribe. But they have no uniform system of government and administration, and they are not conscious of interests common to the whole tribe. There exists no general organization, council, or supreme chief, and subdivisions of the tribe are not capable of even a temporary concerted action.

The subject of clan organization, totemism, and exogamy, receives detailed treatment (pp. 222-242), and in this connection the functioning of joking-relationships between clans and individuals is of particular interest. This subject has been dealt with elsewhere by H. Labouret.¹ The relationship of structure and function, for example in warfare and sharing property, is admirably kept in view. The data adduced with regard to the present clan organization, respect for certain animals, and the operation of exogamy, would, I think, warrant a somewhat stronger assumption respecting the more complete functioning of these institutions before their decline began, for the facts do suggest disruption of a more complete organization.

The kinship system and its terms of relationship are only briefly considered, and the value of this section would have been enhanced by tables of relationship. The sisters of a mother are considered as "little mothers," and the maternal uncle has a close functional relationship with his sister's sons. When taking a second wife, a young man expects to receive the necessary bride price (earnest, or token money) from his mother's brother.

The data relating to childbirth bear directly on religious beliefs, for the Lobi believe in a scheme of reincarnation whereby souls of the dead enter into human

¹ *La parenté à plaisanteries en Afrique occidentale*, Africa 11: 244-293, 1929.

embryos. Boys are not circumcised, but an operation of excision is performed on girls in the belief that this facilitates childbirth, and sometimes a second and more drastic excision is performed to expedite delivery. According to locality the operation may be carried out on the fourth day after birth, during the period from seven to ten years, or a few weeks before marriage.

The contents of Book V, *Les Conditions Economiques*, raise the question of arrangement, and it is not clear why the chapter on social life should have been interpolated between two series of interrelated economic facts. The persistence of spiritual beliefs and their intrusion into secular matters is aptly illustrated by a description of founding a market, for which purpose a diviner consults ancestral spirits. An account of native and foreign merchandise together with a description of weights and measures is introduced at this point.

Under "Civil Law" the religious character of land tenure is described. An earth cult exists, and a divinity has to be addressed before new territory is chosen as a site for a village. There is a religious sanction to marriage, for the spouses are under the protection of a family deity, and they are expected to observe reciprocal fidelity under pain of arousing the anger of ancestral spirits. A study of the judiciary begins with an account of the authority of heads of families, and in dealing with public justice the procedure of trial by ordeal is described. The moral factors of truthfulness, generosity, hospitality, loyalty, and modesty are discussed.

The section on religion and magic (Book VII) would be profitably read in conjunction with Rattray's *Religion and Art in Ashanti*, for H. Labouret discusses the concept of a supreme being (*Dieu-Atmosphere*), powerful and remote, not concerned with the daily lives of men, but somewhat like the Bantu beliefs in Nyambi, Suku, and Kalunga. Yet the Lobi, like their Ashanti neighbors, have a hierarchy of spiritual beings who, because of their interest in the details of human life, demand placation. Deities of the river, also household gods, patrons of hunting, fecundity, and protectors against sorcery are described.

In discussing the difficulty of demarcating religion from magic the author points out that acts and beliefs associated with worship of supernatural beings are similar to certain rituals and spells, which are not connected with a person or a power. This book includes a study of concepts of spiritual counterparts of the body which have various fates after physical death, and again at this point the need for comparative study with similar beliefs of the Ashanti is evident, for one of the ultimate aims of anthropological study is the breaking down of ideas of separation engendered by the existence of political boundaries and the publication of separate monographs in different languages.

At the end of the book are thirty-one plates in photogravure, excellent in technique, but in a few instances, in order to show stages in a process, eight pictures appear on a page. Since each picture is only 4 cm. square the details are not instructive, and half the number of views would have been more effective. An adequate index is provided.

L. Tauxier, retired administrator of colonies, divides his work on the Agnis into two parts, "*Les Agnis de l'Indenie*" and "*Les Agnis du Sanwi*." Under the

former heading he treats of history, work, family, law, and religion. The second part includes a chapter entitled "Anthropologie" which is anthropometrical. Under the heading "Linguistique" the author gives four pages of comparative study of one hundred and twenty words from each of six tribes. From this chapter on linguistics an account of folklore is separated by a chapter on law and religion. Stories are grouped in three divisions according to their motives. Thus, there are tales having the spider as the main interest, stories centered in women, and a section of miscellaneous tales. The measurements made by the author, and the figures he adduces from other works for comparative study, will be of great interest to physical anthropologists. It is unusual to find among studies of African tribes measurements taken on a group of women. But L. Tauxier was able to record the measurements of sixty-eight men and fifty-two women of the Agnis.

A valuable part of the work is the report of interrogations made in court in connection with magical practices, for these inquiries, given as question and answer, throw considerable light on native thought processes and attitudes toward the supernatural.

Historical considerations tend toward monotony, for they are not used effectively to show how the complexity of events has affected the structure of institutions and the psychology of individuals and groups. In order to understand the present complexity of native thought, European intervention, and Mohammedan admixture, historical study is of paramount importance. But such research is effective only when the facts of history are treated, not merely statically and categorically, but as dynamic and determining elements of culture.

The method of approach is open to criticism. For instance, in the chapter on "Work and the Family" the author begins with several pages of statistics giving the export of coffee, cocoa, rubber, and palm-oil, in the period 1910-1923. Would it not be more natural to give all available information respecting native activities of an indigenous kind; then, in order to impress the reader with the consequences of European intervention and the result of diverting native labor into industrial channels, perhaps quote a few figures.

A good map is needed. Nineteen plates in photogravure are excellent in technique, but one is disappointed to find that only three of these plates are of ethnological value. The remaining plates, dealing for the main part with attractive scenery, are more suitable for a travel book. A reader will find the dearth of useful illustration particularly trying when attempting to follow the description of technological processes.

The book contains a great quantity of valuable ethnological information relating to a region by no means adequately described, and the volume will be exceedingly welcome to students of West Africa. But a critic is left with the desire to carry out some rearrangement of parts, to change the method of presenting data, to substitute more useful plates, to add some line drawings, and to provide an index, the usual place of which is occupied by a generous list of *errata*.

Djenné, a Sudanese city, situated between the River Niger and its affluent, the Bani, resembles Timbuctu, Kano, and Sokoto, in being a great emporium of trade

for many centuries, and therefore a focal point in the study of history and ethnology. C. Monteil, one-time colonial administrator, begins with a clear outline map and a survey of the topography and biology of the region, a very necessary prelude to the study of human life. His notes on the domestication of three types of guinea fowl are of peculiar interest, since this subject has received little attention, and references are few. My own acquaintance with the practice was made by shooting a brace of birds near a village in French Niger Territory, entering into an altercation, and paying an indemnity.

The principal grains are rice, sesame, and maize. Ground-nuts are important; cotton is grown, and the bark of the baobab is used for making cordage. Horses, cattle, sheep, goats, and donkeys are used, while dogs are slaughtered and eaten by non-Mohammedans. Pigeons have been introduced from Morocco. Apiculture is followed, and one species of domesticated duck is appreciated.

To follow the history of Djénne through all the intricacies of warfare, politics, and racial movements during eight centuries is a stupendous task, in which a reader will find himself aided by supplementing Monteil's account with a perusal of E. W. Bovill's "The Moorish Invasion of the Sudan" (*Journal African Soc.* XXVI, 1926, 245-262; 380-387) and H. R. Palmer's "Sudanese Memoirs." The "Haut-Sénégal-Niger" and other writings of M. Delafosse are also useful in this connection.

A brief summary of the physical features of several tribes is given, and points of ethnological interest relating to Peuls (Fulani), Bozo—a primitive fishing community, the Mali, the Nono, and the Songhai, are given. The presentation takes the form of brief notes rather than a coördinating study showing the interrelation and miscegenation of ethnological traits. The subject is, however, so complex that one volume would not suffice for analysis of this kind even if the facts were ascertainable. The account of the Bambara is so brief that a student will find it necessary to supplement the information by reference to the work of J. Henry (*L'âme d'un peuple africain, les Bambara, leur vie psychique, sociale, religieuse*. *Anthropos Bibliothek*, 1910), and C. Monteil's more recent "Les Bambara du Segou et du Kaarta", Paris, 1924.

The sketches of houses with numbered parts and an account of the function of these is illuminating, but the section on technical processes connected with metal work, weaving, and building of canoes is sadly in need of illustrations. A few sketches would aid one's imagination and relieve the tedium. In a book of three hundred pages only three plates are given. A section on trade is particularly valuable in giving what I believe to be the most complete account of the transactions and commodities of a native market. Monteil has successfully striven to remedy a common defect in ethnological studies. The extensive use of cowries will perhaps surprise some readers, for the author gives six pages of tabular statements relating to values of commodities in cowries, and his description of rapid methods of counting is lucid.

In a concluding chapter "Today and Tomorrow," Monteil considers the effects of Mohammedanism and European influences. The influence of Koranic teaching in religious belief, politics, and morals has given a new impetus to industry and agriculture, but under the veneer a strong Negro background of indigenous culture

exists. One of the most important contributions of European enterprise is a scheme of irrigation which may change the entire outlook of agriculture, land tenure, and trade.

The historical aspect of this study leaves the impression that the most necessary method of approach, now that the broad outlines are known, is intensive study of individuals and village communities. Broad historical concepts are indispensable, but they do not achieve their aim as interpreters of culture and a guide to administration unless a more localized and detailed study is undertaken to show the result of the triangular play of Negro, Mohammedan, and European cultures.

Absence of an index is a grave omission which will make burdensome the student's task of fully utilizing the wealth of material presented by the author, who has, however, aided the research worker with a short bibliography.

WILFRID DYSON HAMBLY

AMERICA

A Study of the Delaware Indian Big House Ceremony. FRANK G. SPECK. (192 pages, 26 figures, 4 plates. Publications of the Pennsylvania Historical Commission, volume II. Harrisburg, 1931.)

The early destruction of the pre-Columbian cultures of the Atlantic seaboard has left a gap in our records which, increasingly difficult to fill, is becoming the more important the clearer we come to visualize eastern North America as the meeting-ground of two cultural streams: the ancient northern culture, still represented perhaps by the northeastern Algonquians and in part the Eskimo, and the southern wave of influence communicated to Algonquian peoples who had migrated into the Southeast by Iroquoians and Muskogean primarily. For the southeastern Algonquian peoples the labor of rescue and cultural reconstruction has yielded only hints and suggestions of the subjective or mental aspects of former life in the region. To this statement the study of the Delaware forms a notable exception. The present volume, taken in conjunction with the work of M. R. Harrington¹ and with further publications promised by both Professor Speck and Mr. Harrington, indicates that future inferences as to the spiritual life and thought of the Algonquian peoples of Virginia and the Carolinas will take as their base the religion of the Delaware.

In spite of a long series of contacts and misfortunes the Delaware have been particularly tenacious of their ancient religious ideas and ceremonies, and we have the testimony of records as far back as the early seventeenth century that the Big House ceremony and associated beliefs are essentially pre-Columbian Delaware. In this study the Big House ceremony is presented in text and translation, accompanied by detailed footnotes and a lengthy explanatory introduction.

¹ Some Customs of the Delaware Indians, UPM-J 1, no. 3; Vestiges of Material Culture among the Canadian Delawares, AA n.s. 10, no. 3; Preliminary Sketch of Lenape Culture, AA n.s. 15, no. 2; Religion and Ceremonies of the Lenape, Indian Notes and Monographs, Museum of the American Indian, 1921.

The Big House is the annual ceremony of the Delaware proper (Harrington's Unami), conducted in the fall of the year, and lasting twelve nights until noon of the thirteenth day. Every year the tribal council set the day, and an individual volunteered to "bring in" the ceremony. He took upon himself the executive duties of management and the financial obligations. The tribal subdivision to which the Bringer-in belonged (Wolf, Turkey or Turtle) became sponsors of the ceremony. Six ceremonial attendants were appointed by the leader, two from each division, one man and one woman, whose duties included the making of fires, the preparation of food and firewood, and the sweeping of the Big House and grounds. The two attendants of the division to which the Bringer-in belonged were the leading attendants.

On each of the first eleven nights of the ceremony the performance consists primarily of the recitation of vision experiences. Only men of maturity recite and chant. The opening recitation is that of the Bringer-in, after which others come forward voluntarily. There was no fixed order of recitations from one year to another, but the recitation of each visionary is repeated identically every night of the ceremony and at every ceremony in which that visionary participates, so that it becomes formal and ritual.

Inside the Big House, the visionary begins his recitation at the north, and alternately dancing and reciting through a series of eleven formal steps, he makes two circuits counter-clockwise, one a wide circuit of the interior, and a second narrow circling around the center pole. He carries a leading rattle, is accompanied by a follower who carries a second rattle, and after these two come others who choose to dance along. Two drummers seated on the south side repeat the songs and accompany the performance by beating a deerhide drum. After each recitation the House is swept ceremonially with turkey wings by the leading attendants.

These vision recitations form the basis of worship of the Big House ceremony. They are held on the evenings of each day. The people are encamped about the Big House and during the day may spend their time in games. Several dramatic events occur during the twelve days; these include the departure and return of the ceremonial hunting party, the performance of the Mask-Spirit dance, and the kindling of new fire. The hunters, in charge of a leader appointed by the Bringer-in, are feasted on the fourth morning and depart before noon; and immediately after their departure a volunteer impersonates the Mask-Spirit (a masked bear-like figure) who controls the wild game. The hunters return on the sixth (Harrington) or seventh (Speck) day; their success is signaled by firing a shot for every deer killed. The deer are hung on a pole to the east of the east door of the Big House, offered as a sacrifice, and used as food on subsequent nights. New fire is kindled with a fire drill by the leading attendants on the ninth night. The last night the fires are allowed to die down, and women and novices are permitted to essay vision recitations.

There is a profound symbolism associated with the Big House. Speck writes, "The cosmos in terms of the Big House is a dual symbolism, one realm being that of the celestial universe embraced in terms of time and space; the other the tangible realm of the human in the

midst of the concrete. . . . The Big House stands for the universe, its floor, the earth, its four walls, the four quarters; its vault, the sky dome. . . . The center post is the staff of the Great Spirit with its foot upon the earth, its pinnacle reaching to the hand of the Supreme Deity (p. 22).

The twelve carved face images are representations of manitu, those on the center pole being visible symbols of the Supreme Power, those on the upright posts, three on the north wall and three on the south, the manitu of these respective zones; those on the eastern and western door posts, those of the east and west (p. 23).

At the same time the carved faces "are not treated with adoration"; they are not objects of worship, but "channels for worship" (p. 37), a valuable distinction.

But the most engrossing allegory of all stands forth in the concept of the White Path, the symbol of the transit of life, which is met with in the oval, hard-trodden dancing path outlined on the floor of the Big House. . . . This is the path of life down which man wends his way to the western door where all ends (p. 23).

It symbolized not only the pathway of life, but the journey of the soul after death as well.

It is in such a setting, surrounded by visible symbols of abstract meanings of the world that the Delaware worship takes place. In the recitations the manitu are named, the star and celestial powers, the animal and earthly powers, the Great Spirit, the special embodiments of power in the ceremony, the rattles, the prayer sticks, the Mask-Spirit, the carved faces, the fires, the drums. The humility of the people is stressed, their need for aid in maintaining health, in living long, their thanks for the great gifts of manitu, corn and game. Vision revelations to the Delaware are not individual private possessions which can be used for private motives and profit; they do not give special and specific power to the visionary. They are rather claims upon the individual to take his part in the maintenance of the welfare of his people, evidence that his life moves in harmony with the forces of the world. In bringing together the major revelations of living men in one ceremonial outpouring of humility and prayer, in the Big House setting, the Delaware have developed a culminating rite which is essentially a pooling of all the sources and embodiments of power known to the people. The ceremony is a living evidence that Delaware beliefs and practices were felt as a more or less unified and systematic world view. The universe of forces might appear pluralistically in actual experience, but the manifold special revelations of power were interrelated in a general scheme.

The most striking characteristic of the Delaware picture is the predominance of ethical quality. The psychological functionalist who approaches this fact sceptically will after consideration admit that the evidence for the genuine native character of the ethics is overwhelming. It is not only woven into the fabric of the ceremony, implicit in its action and organization; it is explicit in the recitations and speeches, and one with the symbolism. And not only does our other commentator, Harrington, find essentially the same focus, but Speck has documented his account with proof from early records that centuries ago the Delaware expressed the same ethical beliefs, practiced the same ethical doctrine.

In my own experience I have found a strong consciousness of ethical values in the native mind, as among the Pawnee. But there the connection of the ethical doctrine with ritual activity and belief does not lie upon the surface. Pawnee ritualism is itself so complex and intricate that it almost becomes the end in itself, certainly the aesthetic end. Here the ethical ideas are the dominant theme.

The Big House ceremony, current also among the Minsi, invites ethnic comparison with the Busk ceremonies of the Southeast as well as with the festivals of Iroquoian peoples. Suggestive comparisons with the Busk include the inclusion of a new fire rite and a ceremonial hunt, sun worship, turtle symbolism, square ground arrangements and ceremonial seating arrangements of tribal subdivisions,² and the concept of the Big House.³ Other general comparisons of Delaware religion with the Southeast culture area of which it is a part include the use of carved wooden images and masks, turtle rattles, deerskin drums, ceremonial sweat bath and black emetic drink, and east-west orientation.⁴ I am particularly struck, however, by the indications in Delaware belief of a cosmology associating celestial powers with earthly complements and embodiments (pp. 48-9), which suggests comparisons with Cherokee star lore,⁵ and with the basic ideology of Caddoan religion. But this must await more thorough consideration.

Dr. Speck is to be congratulated on the penetration with which he has grasped the profound and subtly elusive ideas involved in this ceremony and religion. Only too often is the outward form allowed to stand for the inner thought. In this account that fault is not apparent, and something of the true nature of Indian thought and belief is realized.

ALEXANDER LESSER

OLD WORLD ARCHAEOLOGY, SOMATOLOGY, MISCELLANEOUS

The Lithic Industry of the Sinanthropus Deposits in Choukoutien. P. TEILHARD DE CHARDIN and W. C. PEI. (Bulletin of the Geological Society of China, vol. XI, number 4, pp. 315-364, 3 pls., 36 figs. Peiping: published by the Geological Society of China, 1932.)

Prehistorians were quite generally startled when, in the spring of 1931, traces of fire and quartz fragments with seeming evidences of human breakage and workmanship were discovered in the same early Pleistocene deposits that already had yielded abundant remains of *Sinanthropus pekinensis*. The important questions: Are the chipped greenstone, quartz and quartzite fragments of human manufacture, and Was *Sinanthropus* the artisan who made them, have been dealt with by Mr. Pei in a preliminary paper (Bulletin Geological Society of China, vol. XI, num-

² J. R. Swanton, Religious Beliefs and Medicinal Practices of the Creek Indians, BAE-R 42: 546 ff.

³ Yuchi and Taskigi Creek square grounds were called "big house." F. G. Speck, Ethnology of the Yuchi Indians, UPM-AP 1, no. 1: 111-112.

⁴ J. R. Swanton, Aboriginal Culture of the Southeast, BAE-R 42. 709-711.

⁵ S. Hagar, Cherokee Star Lore, Boas Anniversary Volume, 354 ff.

ber 2, 1931, pp. 109-146). The full report on the stone industry is now at hand from the combined pens of Père Teilhard de Chardin and Mr. Pei.

Three cultural zones are recognized among the brecciated sediments of Locality 1 at Choukoutien. The present paper deals primarily with the artifacts from Zone C, collected in situ and of particular significance because of their direct association with two fragmentary jaws, parts of a calvarium and a clavicle, all of these referable to the genus *Sinanthropus*. This lower zone corresponds to the uppermost Zone A in its varicolored, banded, sandy-clay layers, its ashy character and the presence of *Equus sanmeniensis*, *Rhinoceros* "sinensis," *Rhinoceros* cf. *tichorhinus*, *Elephas namadicus*, *Cervus* (*Euryceros*) *pachyosteus*, *Spirocervus peii*, *Ovis ammon*, *Hyaena sinensis* and *Struthiolithus*.

The number of "implements" is small relative to the total of clearly imported broken stones excavated in Zone C. Nevertheless, they fall into several clear-cut categories: trimmed greenstone boulders, choppers, prepared quartz cores, several varieties of scrapers and points. Among none of these is there any evidence of a prepared striking platform. The trimming flake scars, however, are deep even on the quartz cores, while a significant peculiarity of this industry may prove to be the frequent production and use of "bipolar flakes," formed by crushing a core or nodule between two boulders. Zone A is quite similar in many respects, the implements, largely collected from the rubbish of the 1928 excavations, being perhaps slightly better made. Additional differential features are (p. 353):

a) the predominance of small elongated flakes of the "bipolar" type, (b) a more common use of flint-like material (allowing a better shape of the small tools); and (c) a curiously large number of pitted boulders, possibly used for crushing the quartz pebbles.

The geographical isolation of this industry and the extremely unfavorable nature of the lithic character of the actual material raise difficulties in placing this culture with respect to other stone age cultures. Generally, not even the best of these implements can be compared to the best of the implements from the Mousterian quartz layers of France, and true preparation is, in the main, rudimentary. Most of the retouching is the result of use and not due to preparatory chipping. The authors add the following caution (p. 354):

Our present and provisional (and, we confess, highly subjective) opinion is rather therefore that the Choukoutien Zone C industry exceeds distinctly, but moderately, what we should expect to be, a priori, the most primitive recognizable human industry. . . . In any case, the Choukoutien industry, by its association of choppers and an almost microlithic industry, represents a very characteristic cultural type, so far unique in China. Several analogies, of course, are easily traceable between these implements and the choppers, scrapers, etc. found in other countries: but such similarities concern exclusively primitive types of artifacts, recurring unavoidably in any lithic industry.

The questions pertaining to the presence of a true "bone industry," signaled as a result of Professor l'Abbé Breuil's visit in October-November, 1931 (vide Bulletin Geological Society China, vol. XI, number, 2, 1931, pp. 149-151; and l'Anthropologie, vol. XLII, 1932, pp. 10-14), are dismissed by the authors with this comment (p. 354):

The presence of a true bone industry seems so far not to be clearly established. Of course, artificially broken, scratched and burnt bones are abundantly found in the Choukoutien cultural deposits. But further evidence of a systematic utilization of Deer antlers, jaws, etc. seem to be based so far on equivocal traces of wear or breaking, such as may occur in any fossil Mammals deposit.

Against this one can only state that the combination of long experience and remarkable intuition possessed by Professor Breuil is a consideration not to be lightly set aside in passing on the nature of the worked and utilized bones.

In conclusion one cannot but applaud this monograph for its decisive and careful description of the industry, the cultural zones, and above all the restraint exhibited in positing conclusions to a series of problems that are of first magnitude. All the stratigraphic, lithologic and palaeontologic evidence indicates conclusively and overwhelmingly that the stone industry is coeval with *Sinanthropus* and not the intrusive product of a later epoch. The one line of reasoning left to those who cannot believe *Sinanthropus* capable of controlling fire and fashioning artifacts is the contemporaneous existence of another and superior form of Hominid. It may be pointed out that the first clear association of Neanderthal man with a Mousterian industry brought forth identical objections. Further, on the basis of cranial characters Dr. Black assigns definite human status to *Sinanthropus*. The conclusion is inescapable that *Sinanthropus* was the maker of a greenstone and quartz-flake industry unrelated both historically and, in the main, typologically to any other known culture of the first third of the Pleistocene. Professor Breuil has elsewhere suggested the adoption for this culture of the name Choukoutenian.

THEODORE D. McCOWN

Skeletal Remains of Sinanthropus Other than Skull Parts. DAVIDSON BLACK. (Bulletin of the Geological Society of China, vol. XI, number 4, pp. 365-374, 2 pls. Peiping; published by the Geological Society of China, 1932.)

Five pages suffice for Dr. Black to describe the known skeletal remains of *Sinanthropus* other than the crania, jaws and teeth. The publication of this material was purposefully delayed in the hope that the bodily morphology of Peking man might be revealed through the discovery of additional remains. At the present time this hope still has to be deferred.

The bones described are a left semilunar wrist-bone, a left clavicle and four anomalous terminal phalanges. The os lunatum came from material excavated from Locus B,

the size and proportions of the bone are in all respects similar to those of the os lunatum of modern man (p. 366),

and in consequence *Sinanthropus*

must have had hands differing in no essential respect from our own (p. 366).

The clavicle comes from Quartz Horizon 2 of Locus G associated with artifacts

and two adult jaw fragments as well as a large piece of parietal. The specimen is represented by about three-fourths of the shaft, both articular surfaces being defective. Dr. Black judges it to be from an adult and estimates the length at about 15 cms ,

which would be about the length of an adult modern North China male clavicle (p. 367).

The toe bones came from *Sinanthropus* Loci A and D at various times between 1929 and 1930. Dr. Black remarks (p. 369):

It is evident that the positive identification and interpretation of these interesting bones cannot be well established beyond reasonable doubt unless new discoveries throw further light on the subject. If the first specimen of this series discovered be indeed the terminal phalanx of the hallux of *Sinanthropus*, it would seem probable that the morphology of the feet of the latter form and modern man differed much more widely from one another than did that of their hands.

The problems raised by the non-occurrence of other than cranial material are of peculiar interest when one recalls the number of individuals represented by the skulls, jaws and teeth. Thus far there is no positive evidence that *Sinanthropus* buried his dead, and this negatively inferred fact already has given rise to not a little speculation. The suggestion that *Sinanthropus* formed part of the menu of meals consumed by a superior race, possibly *Homo sapiens*, seems a bit wide of the mark. Despite the recent acceptance in some quarters of Dr. Leakey's evidence from East Africa of the existence of *Homo sapiens* in beds of early Pleistocene, perhaps even Plio-Pleistocene age, there is no warrant for the preceding kind of supposition. The "mystery" is only heightened by such guessing. What is indicated is a little patience plus the extension of activities to other deposits of comparable age.

THEODORE D. McCOWN

On the Fossil Vertebrate Remains from Localities 2, 7 and 8 at Choukoutien. C. C. YOUNG. (Palaeontologia Sinica, Series C, Vol. VII, fasc. 3, II, 21 pp., 1 pl., 7 figs. Peiping: Geological Survey of China, 1932.)

This paper is a systematic description of the vertebrate fauna from three localities near the *Sinanthropus* site, Locality 1. Locality 2 lies to the west of the latter and contains a similar faunal series. This site and Locality 3 are the only ones having a macro-fauna comparable to the *Sinanthropus* deposits. Locality 7 lies about a kilometre south of Locality 1. Half a dozen mammalian species are represented and the suggestion is made that these correspond to the lower cave of the *Sinanthropus* site. Locality 8 lies close to the village of Choukoutien, the few fossils recovered belonging to the general fauna of the Choukoutien fissure formation.

A comparative table on page 20 indicates the close faunal resemblances between Localities 1 and 2. Species occurring in at least three of the six sites are: *Meles* sp., *Hyaena sinensis*, *Cricetus varians*, *Cricetus* sp., *Microtus brandti*, *Equus* sp., *Rhinoceros* sp., *Sus lydekkeri*, *Euryceros pachyosteus*. All of these are assigned to the upper polycene of Choukoutien.

THEODORE D. McCOWN

The Old Stone Age: A Study of Palaeolithic Times. M. C. BURKITT. (XIV, 254 pp., 8 pls., 30 figs. \$2.50. Cambridge: at The University Press. New York: The Macmillan Company, 1933.)

The long desired companion volume to the author's *Our Early Ancestors*, and Professor Childe's *The Bronze Age*, is at last at hand. The general treatment is similar to the aforementioned in that the purpose is not so much to provide an exhaustive work of reference as a compact handbook setting forth in outline the principal features of the stone industries of the Lower Palaeolithic with a résumé of the changing culture-sequences that fall within this range of human cultural development. The uses for such a compact little volume are twofold: as an introduction for beginning field-workers, and for teaching purposes. The reasonable price is a quality much to be commended and one that most textbooks on prehistory lack.

The first two chapters contain a series of definitions of such commonly used terms as Artifact, Industry, Culture, Cultural and Time Sequences, Stratigraphy, Typology and, in addition, brief discussions of some of the implications involved therein. On page 14 we read:

It would seem, then, that already as early as old stone age times some racial differentiation of peoples had already taken place and any rigid application of a chronological scheme of culture-sequences which can be proved true for Western Europe will not necessarily be applicable in other areas hard by

One may question the assumption implied in the statement in so far as culture changes or differences may or may not connote differences in Race; but the general caution regarding method embodied in this sentence is one to be borne constantly in mind.

Chapter III, Tool-Making, contains some concise and pointed information on a series of subjects all too little understood. A large number of misconceptions and misunderstandings vanish when a thorough knowledge of the technique or techniques that were used to produce the finished artifact are fully grasped. Moreover, much of the ink that has been spilled over the eolithic question might have been avoided if a little more had been known concerning what flint will or will not do under varying quantities and directions of percussion and pressure.

The chapters devoted to geological problems and the culture-sequences of the Palaeolithic are, quite naturally, weighted in favor of Western Europe. In about one hundred small pages the difficulties of deciding what must be left out are far greater than of what should be included. Despite these difficulties there is more than a mere listing of the relevant facts. Many of the more crucial problems are clearly envisaged, and the increasing complexities of the inter-relations of the Lower Palaeolithic cultures are indicated most trenchantly. As instances there may be cited the differences between the western coup-de-poing and the eastern flake-tool industries which are thrown into relief; the relationship of the Levalloisian and the true Moustertian to this Lower Palaeolithic "flake-tool civilization"; the emphasis on the dual character of the European Aurignacian and the problems raised by the seemingly

historically unrelated Solutrean-like cultures of South Africa, Kenya, North Africa and the Solutrean of northern Hungary.

On the other hand one reads with surprise (p. 152):

It seems to be a fact, perhaps difficult to explain, that contact between a Neanthropic culture and one belonging to the flake-tool civilization leads to the development of the laurel leaf tool type.

What is a "Neanthropic culture"? I believe I know what Mr. Burkitt has in mind but the beginner either passes by and forgets what is really an important point or following it to a logical conclusion, sees, perhaps, some inherent psycho-biological quality in *Homo sapiens* which brings about the development of laurel-leaf types when the former contacts a flake-tool culture. Again, the attribution of an early phase of one of the flake-tool cultures to Heidelberg man (p. 126) is possibly a legitimate assumption, but of evidence, in any sense of the term, there is none. The increasing complexity of even the meager outlines which we now possess regarding the races of mankind existing in the Pleistocene is sufficient to discourage more than the most tenuous of correlations between Race and Culture. Neanderthal man was the maker of the Mousterian industries of Western Europe, but there is more than a suspicion that typologically similar industries in other areas were the products of other human types. One should avoid "dehumanizing" the study of prehistoric cultures, yet in view of the total lack, or highly inferential nature of the evidence concerning the actual makers of the Lower Palaeolithic industries, it seems wiser to wait until the evidence is forthcoming of actual association of particular races with particular cultures.

Mr. Burkitt rightly insists on the pertinence and interpretative value of modern ethnographic parallels to stone age culture traits. Treated as analogies, such comparisons as (p. 155):

The sort of life lived by the Eskimo today must have been somewhat similar to that lived by Magdalenian man,

are not out of place. It behooves the prehistorian, however, to make a careful selection of his illustrations. The qualification carried in the statement just cited would make this comparison as apt if the Paviotso (barring the lack of Arctic climate) or any other modern primitive group lacking marked specific cultural emphases had been substituted. Certainly the Central Eskimo, frequently considered as "typical," are a far cry from the Magdalenian. The real difficulty lies in that the constant reiteration in print of such analogies tends to give them the status of homologies. As homologies they are not only invalid but entirely erroneous.

I venture to point out what I believe is a slip on page 148. The gravers mentioned as occurring in an Acheulian milieu near Nazareth in Palestine must be those from Neuville's Layer D1 in the Grotte d'Oumm-Qatafa in the Wadi Khareitoun southeast of Bethlehem (not Nazareth) and west of the Dead sea. This, as far as I am aware, is the only excavated early Palaeolithic site in Palestine.

The four chapters devoted to the art of the Palaeolithic are most readable. The sensible and lucid exposition of its character, its development and the various possibilities regarding the motives that lay behind the production of the cave art—the painted frescoes and the engravings—is rivaled by no one, certainly no prehistorian writing in English at the present time. On a subject where modern ethnographic parallels are most strongly indicated, Mr. Burkitt indulges in no flights of fancy.

It would seem, then, that in sympathetic magic as so outlined we have a reasonable explanation of the problem of cave art which explains not only the presence of the drawings themselves but also the reason why they occur in such extraordinary situations (p. 213).

But this is no attempt at a single, simple explanation for all the art. With regard to the home art we read (pp. 214-215):

While, however, we cannot, as has been seen, admit either decoration or self-expression as motives for the art in the cave temples or, as we have perhaps more correctly called them, cult-shrines, the problem is very different when we come to the home sites. . . . The point is that when we get away from the cave cult-shrines we cannot affirm that any form of magic is necessarily involved, and this is especially so in the case of the home art, for it would seem more than likely that a great deal of what we find must have been simply made for pleasure.

In conclusion may I heartily recommend this book as filling a long-felt want, particularly in the teaching profession. The unambiguous style, the compact presentation, the excellent and readable charts and tables and above all the clear envisaging of some of the fundamental problems of nomenclature, method, and field technique will make it invaluable as a beginner's handbook.

THEODORE D. MCCOWN

The Races of Mankind: An Introduction to Chauncey Keep Memorial Hall. HENRY FIELD. (Anthropology Leaflet 30. 40 pp., 9 pls., 1 plan. \$.25. Chicago: Field Museum of Natural History, 1933.)

Field Museum of Natural History is to be most warmly congratulated on bringing to a highly successful conclusion the establishment of the Chauncey Keep Memorial Hall devoted to the living Races of Mankind. In a thoughtful and stimulating preface Dr. Berthold Laufer remarks:

With the advance of our civilization and the white man's expansion all over the globe many primitive tribes are now doomed to extinction and are gradually dying out. It may be questioned whether any vestiges of the life and culture of primitive man will have remained on this earth by the time the following century arrives. Many a vanishing race will continue to live only in the statutes and busts displayed in this hall.

Anthropology Leaflet 30 is designed to serve as a guide to Miss Hoffman's seventy-four busts and life-size figures that comprise the present contents of the hall. Sir Arthur Keith says in his Introduction:

The fact must not be overlooked that a knowledge of physical and racial anthropology is not

confined to those who work in museums and universities. We are all anthropologists, we became so as soon as we could recognize the features of the mother who suckled us. Our anthropological knowledge grew as we came to know the facial traits and bodily habits of our family circle. Year after year we have continued, quite unconsciously, to add to our gallery of mental portraiture. The community in which we are born and bred provides us with our anthropological standards. If into our community there should stray people from distant lands, from Africa, India, or China, there is no need for us to measure their heads, faces, or bodies in order to recognize their race. The eye, at a single glance, picks out the racial features more certainly than could a band of trained anthropologists, who depend on measurements to distinguish Negro, Indian, or Chinamen from European. The number of features we take into momentary consideration is inconceivably great. The aim of the professional anthropologist is to tabulate these racial features and to measure them; but so numerous are they, so shifting and indeterminate in nature, that scientific measurement can never rival the accuracy and completeness of the rule of thumb method practised by the man in the street. The artist who secures a striking likeness does so because he or she is an anthropologist by intuition. We professional anthropologists can never hope to obtain by mere measurements the accuracy of racial portraiture which comes by instinct to the true artist. I hold that the busts, figures, and groups modeled by Malvina Hoffman are priceless registers of anthropological fact and in the full sense of the term are scientific documents as well as works of art.

In this spirit, Henry Field has offered first some brief comments on certain of the methods and criteria used by anthropologists in describing and classifying races and then proceeded to describe by geographical areas the human types exemplified in the collections. The difficulties of an accurate and wholly satisfactory presentation in so brief a compass are clearly evident. Nevertheless, the museum-going public will obtain a fair idea of the differences which distinguish the various groups of man, and it must be remembered that the magnificent bronze and stone figures convey better than any printed statement both the fundamental similarities and the striking divergences of humanity.

Dr. Laufer and Sir Arthur Keith have paid tribute to Miss Hoffman's work. It is to be greatly hoped that further examples of her unique talent may be forthcoming from time to time. The African races are well represented, though a group of Hottentots, done in the same manner and with the same sympathy as the pygmy group from the Ituri region, is much to be desired. Mongoloid types are, at present, perhaps a little over-weighted in favor of eastern and southeastern Asia. The very real diversities of the physical types of central Asia are unrepresented. For the New World, two Eskimo and two Plains figures can be deemed scarcely adequate, while the interest we all have in our own ancestry is slighted by the presence of only a half dozen European types. The intent is to add to these groups from time to time and in consequence some of the larger lacunae will doubtless be filled.

The motive and the success in establishing Chauncey Keep Memorial Hall cannot receive enough praise. To the many of us who are "eye-minded" these beautiful and accurate portrayals of the combination of purely biological and essentially spiritual features that embody "Race" will mean more than any number of anthropometric descriptions, no matter how exact, detailed, or comprehensive.

THEODORE D. McCOWN

Anjea: Infanticide, Abortion and Contraception in Savage Society, HERBERT APTEKAR.
With a Foreword by Henry Elmer Barnes. (192 pp. New York: Wm. Godwin, 1931.)

This book, according to the author, has a twofold purpose, the presentation of facts concerning the control of population in primitive societies, and the placing of these data in such perspective as to furnish a basis for an adequate understanding of the two chief elements which restrict population in our own society—birth control and abortion.

The author has combed the ethnographical literature for material on this subject and has brought together a mass of valuable information from reliable sources of the numerous methods, both toxic and mechanical, utilized by primitive peoples in their attempts to restrict population. Not only infanticide, but abortion and contraception as well, are shown to be well nigh universal in distribution. In fact, the great variety of methods and psychological incentives leads to the conclusion that some means of controlling population were probably known and practiced since man's earliest history.

Mr. Aptekar's thesis is primarily a sociological one, but it is framed in such an anthropological background and raises so many questions which anthropologists should be able to answer at the present time, but cannot, that its primary appeal should be to the anthropologist. The validity of his material is beyond question, but there will be so much more to be added, once this question has received the attention it deserves, that the present book will eventually have to be regarded as a most preliminary study. At the present time, however, it should be regarded as a pioneer effort in a most important field of anthropological research, and Mr. Aptekar deserves considerable commendation for the diligent investigation he has made in pointing out the way to a new set of complex problems.

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DISCUSSION AND CORRESPONDENCE

THE AZTEC CALENDAR STONE

The so-called "Calendar Stone" of the Aztecs is a puzzle. Is it an original native conception or is it borrowed?

Bandelier, in his *Archaeological Tour in Mexico*, after a discussion of its possible significance and use, concludes that it was a sacrificial stone and calls it "The Stone of the Sun." He condemns the name "Calendar Stone" which he holds was due to an error of Antonio de Leon de Gama.

With Bandelier I disagree entirely. There is no evidence that it was a sacrificial stone, and there is abundant evidence in the carving on the stone that either it was used in Aztec astronomical operations or was a borrowed pattern set up as a ceremonial stone.

The reason for this statement lies in the fact that the design on the stone is an exact reproduction of a compass card; or, as it was early called, a "Rose of the Winds." In 1901 I mentioned this in my volume *The North Americans of Yesterday*.¹

On the face of the stone are carved the thirty-two "points of the wind" of the mariner's compass-card of the fifteenth century. The Aztec date is the 13th Acatl which translated into our chronology is A.D. 1479, thirteen years before Columbus landed.

My description in the volume referred to was this: "In the centre is a head supposed to represent the sun, and around it are twenty figures, standing [as alleged] for the twenty days of the Mexican month. Then come eight divisions by what appear to be arrow heads, four being extended farther toward the centre than the others and also curled up at the ends, or flukes, and one of these four ending in an elaborate sort of bowknot ornament which covers a wide space at what is now the lower edge as it stands. Each of the eight divisions is again divided by a kind of crown which is smaller than the smaller arrowheads, and then there is a still further subdivision made by a dot on a line with the base of the crown. This gives thirty-two points, exactly the number of points on our mariner's compass-card, so that this carving can be 'boxed' as any compass card can be."

The stone also has the five concentric circles of an ordinary compass-card. These circles have not been changed since the fifteenth century; nor have the other features of the card.

The design is surely the same as a fifteenth century compass-card and, according to the Aztec date, the stone was carved in the fifteenth century.

The puzzle seems to be: how did the Aztecs get this design? And did they know its significance and use it in astronomical work? Furthermore how long was the design known to the Aztec before this stone was carved?

Thirty years ago I concluded that it was an independent development, but I am now convinced that it was not, for the additional "wind points" on our compass

¹ Frederick S. Dellenbaugh, *The North Americans of Yesterday*, p. 182. Putnams, New York, 1901.

card, beyond the cardinal points, were only added after navigators began to sail out of sight of land. The Aztecs never were on the sea at all, therefore they had no need of the extra wind points, and would not themselves have added them, even if they had been using a compass card. But so far as known they had no compass. Was this stone then only used for directions? And why all the wind-points in astronomical work? These wind-points were only necessary in steering a vessel at sea.

There is still another puzzling item in the design on the stone. At the bottom as it stands now, with the top apparently the north of the design, the south pole of the card is the one ornamented instead of the north as with European cards of the fifteenth century and also now.

The Chinese always ornamented the south pole. This would seem to suggest that the card forming the basis of this design was obtained from a Chinese source. Of course it is quite possible that it was obtained from some Chinese vessel blown out of her course and finally wrecked on the coast of Mexico. It is strange in that case that the compass itself was not preserved or some representation of it.

Professor Wiener doubtless would claim that this design came from the Arabs, through Africa to Mexico, but if it came from the outside world at all (and it seems that it must have come from the outside) the most likely source was from some Chinese, or other Oriental ship, touching the coast of Mexico, or wrecked there. The ornamentation of the south pole indicates Oriental rather than European origin, inasmuch as the Chinese considered the south pole more important in their navigation and consequently ornamented that point on the compass card.

As far as the decoration in Chinese fashion of the south pole of the card is concerned, however, there is left still another assumption, namely: that since the compass was derived by Europe from the Chinese, possibly the decoration of the south pole may have continued for a long time in Europe as a mere inherited decoration.

But the Chinese were never great navigators, and their compass seems to have been rather crude, so it is doubtful if this elaborate design of the Aztecs could have been patterned on a Chinese card.

That it is an elaborately decorated "Rose of the Winds" of the Fifteenth Century seems certain. How did it get to Mexico?

FREDERICK S. DELLENBAUGH

RECENT ANTHROPOLOGIC REPORTS OF THE GOVERNMENT OF PAPUA

The anthropologic papers published by the Government of Papua, under the capable editorship of Mr. F. E. Williams, Government Anthropologist, have become an indispensable part of every anthropologic library. The latest of the Reports (Nos. 9, 12, 13, 14) will take at once a preeminent place both in anthropology and colonial administration. Mr. Williams publishes his suggestions toward a better, more humane, and more efficient government of the Territory of Papua. Since he is a government official, his suggestions are not merely printed matter, and the fact that Sir Hubert Murray K. C. M. G., Lieutenant-Governor of Papua, in the great majority of cases shares Mr. Williams' views, lifts these reports from the theoretical level to that of achievements, future or past.

In his report on "Native Education, The language of Instruction and Intellec-

tual Education" (No. 9), Mr. Williams concludes that the English language, and none but English, ought to be taught to diffuse knowledge. His main arguments are that the great number of vernaculars makes the training of Europeans for teaching purposes well-nigh impossible; furthermore the present "insularity" of every tribe would go on indefinitely. Mr. Williams brushes aside—and with reason—the suggestion of a lingua franca, like the "Police-Motu," because it could not be worked into a culture-carrying language. In the last part of his report Mr. Williams offers some clever suggestions concerning the training of some under-developed mental "techniques" of the natives such as: "Interest, memory, exact observation, etc."

Report No 12 greatly honors both Sir Hubert Murray, to whose impulse the work is due, and Mr. Williams—the man and the anthropologist—who carried it out. "Sentiments and Leading Ideas in Native Society" are investigated. Mr. Williams tries to prevent the destruction of such imponderabilia as may prove useful to the moral and economic progress of the natives. He points out the utility of certain taboos preventing unlawful appropriation of property, taboos that the European wantonly violates, merely to show that taboos are nonsense. Yet this taboo is as efficient if not more so than the (more often than not absent) police force. Similar delicate sentiments are at work when the native increases his food-production, because he takes pride in it, while others like shame, loyalty to the group, the feeling of reciprocal obligation may all prove valuable elements in promoting a renaissance of the natives. None but an able and sympathetic onlooker, like Mr. Williams, could have outlined these subtle sentiments so firmly without overemphasizing them. He also suggests the substitution of new leading ideas to those antiquated and likely to hamper the native in catching up with the "Forderung des Tages." Ideas to be atrophied are, for example, the duty of revenge, the contempt for women, for law, and for human life, too.

Reports Nos. 13 and 14 were published in one volume, to emphasize the connection Mr. Williams feels to exist between the two topics investigated. Under the collective title "Population and Education in Papua" Mr. Williams publishes two distinct papers: "Depopulation of the Suau District" and "Practical Education: The Reform of Native Horticulture." It is easy to see from the two titles that in Mr. Williams' eyes, the food-problem is at the root of the depopulation. Of course, he does not neglect the other causes of this social disintegration, similar to the wave of suicide that swept the United States in the early reservation days. In the mind of the natives a great wave of sorcery is at the bottom of all the evil, because the Government does not kill the sorcerers. Disease and death—especially infant mortality—are taking a heavy toll. Sad to relate, the Territory does not dispose of a sufficient number of medical officers, and the Chief Medical Officer, and sometimes Government Anthropologist Dr. Wm. M. Strong are up against a herculean task.

The birth rate is dropping, and whether successful or not, the native methods of contraception and abortion indicate at least the intention—mostly the intention of women though—to avoid the burden of maternity. This purposive limitation does not shrink from infanticide, though of course avowals are very seldom obtained. Mr. Williams discusses and practically brushes aside the "excess of intercourse and moral laxity" as a physiological cause of sterility. Indeed there seems to be no physi-

ologic connection between sterility and excesses. Venereal diseases are doing their share in increasing sterility. Difficulty of impregnation is discussed, but no conclusion seems possible. The lack of appropriate care of the children does the rest to further a decrease of the population. The white man's share is the existence of indentured labor, with absence of the wives. Furthermore, whatever the artificial or social causes of the decrease of the birthrate may be, there seems to be an abnormally great number of apparent or alleged sterility. Mr. Williams urges an appropriate medical and legal intervention, training in midwifery, etc.

The other problem is the necessity of increasing the food-supply, practical suggestions being offered in the second part of the book. The chapter on cross-breeding or in-breeding brings little suggestion if any, this being a delicate topic for the Anglo-Saxon mind. As far as psychological factors are concerned, Mr. Williams wants to infuse new interests in a rather pessimistic society that goes through the painful period of acclimatization within new life conditions.

It is impossible to discuss in detail the second report concerning the reform of horticulture; the main suggestions alone can be mentioned: introduction of new crops, perfecting of tools, storage of food, promotion of hygiene, and creation of garden boarding-schools.

The Government of Papua has to cope presently with the situation the United States were up against in the early reservation days. It can only be said that if the Commonwealth of Australia and the Legislative Council of the Territory will let Sir Hubert Murray and Mr. Williams have their ways, the inevitable passage from the ancient to the modern conditions will be as softly padded for the native as such a painful passage can be. Of course their opinion is not shared by those who have only their own economic advantage in mind, without thinking of the future of the white man's interest in Papua, which may be heavily damaged if not ruined by the decrease of population. Sir Hubert Murray and Mr. Williams do not try to mummify the ancient conditions in a new world, because it is obvious that civilization is as inevitable as "the act of God." Nobody short of Voltaire would have thought of protesting against the disaster of Lisbon, in the name of reason—Mr. Williams has something better to do: he tries to give the native a chance—and a fair one. Both his intentions and his achievements cannot fail to have the approval of every humanely thinking person, and our esteem goes as much to the capable anthropologist as to the human official.

J. S. L. Gilmour's, *The Species of Tobacco grown in New-Guinea* (Report no. 11) is due to a suggestion of Dr. Haddon, the research being carried out on specimens obtained through the Government Officials of Papua. Mr. Gilmour shows that the American *Nicotiana rustica* Linn., and the Australian *Nicotiana suaveolens* Lehm., seem to have been unknown in ancient New Guinea. The species grown are the various forms of *Nicotiana tabacum* Linn. introduced probably from Amboina in the early seventeenth century, and somewhat later from the Philippines, with further introductions from Java and the Moluccas. This is a well-documented monograph.

GEORGE DOBO

NOTES AND NEWS

THE THIRD INTERNATIONAL CONGRESS OF LINGUISTICS met in Rome September 19-26. Five major problems discussed were: (1) *Influenza reciproca* tra i linguaggi come causa d'innovazione, (2) *Il Rapporto naturale* tra suono e idea: simbolismo fonetico, (3) *Se e in quanto* si possa tornare a indagare l'origine degli elementi morfologici nelle lingue Ario-Europee, (4) *Il problema dell parentele* tra i grandi gruppi linguistici, and (5) *Analogie di metodo* fra la storia dei linguaggi e quella delle tradizioni popolari, delle arti figurative, ecc.

THE AXE AND ITS VARIANTS, comprising the first two volumes of *The Stone Age in the United States and Canada*, are announced for a year hence by Warren King Moorehead. Dr. Moorehead will travel throughout the United States between October 9 and April 5 in preparation for these volumes. He requests information as to large or important exhibits, such as present prevailing types in a given section of the country.

Dr. Moorehead also announces type collections illustrating various ancient cultures available at Andover and specially recommended for beginning collectors and those unable to personally search fields. Additional information may be obtained from Dr. Moorehead, P. O. Box 71, Andover, Massachusetts.

THE MEETING OF SECTION H1, ANTHROPOLOGY, of the American Association for the Advancement of Science and Section H2, the American Anthropological Association, was held in Chicago June 19-30.

The morning session of June 22 was addressed by Berthold Laufer on *The Domestication of Animals*; M. J. Herskovits, *The African Origins of the American Negro*; A. R. Radcliffe-Brown, *Studies in Social Organization*; R. Redfield, *The Maya Indian: A Study in Acculturation*. The afternoon was devoted to visiting anthropological exhibits of *A Century of Progress*.

A. T. Olmstead spoke at the June 23 morning session on *Historical and Archaeological Method in the Near East*, and Alfonso Caso on *The Discoveries at Monte Alban*. Carl Guthe, Thorne Deuel, and Arthur Kelly conducted a symposium on archaeological surveys.

The *Ethnic Background of the Early Civilizations of the Near East*, by E. A. Speiser, opened the afternoon session, followed by Leland W. Parron *Physiological Approaches to the Study of Anthropology with Special Reference to the Near East*; Henry Field, *Ancient and Modern Inhabitants of Central Mesopotamia*; and W. M. Krogman, *Cranial Types at Alishar Huyuk*.

Prof. C. U. Ariens Kappers, Director of the Central Dutch Institute for Brain Research, Amsterdam, spoke at the evening session on the *Anthropology of the Near East in Connection with the History of its Population*. Dr. Kappers also opened the June 24 session with a discussion of *Racial Differences in the Human Brain*. Dr. T. Wingate Tood spoke on *The Brain in Childhood*, Dr. C. J. Herrick on *The Human Brain: a General Discussion*, and W. H. F. Addison on *The Area of the Sunken Cerebral Cortex, as Determined from the Length and Depth of Selected*

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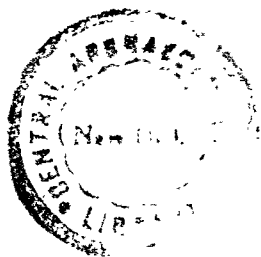
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